

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING				FORM 3 AMENDED REPORT		
APPLICATION FOR PERMIT TO DRILL				1. WELL NAME and NUMBER NBU 921-35H1CS		
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				3. FIELD OR WILDCAT NATURAL BUTTES		
4. TYPE OF WELL Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>				5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES		
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.				7. OPERATOR PHONE 720 929-6007		
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217				9. OPERATOR E-MAIL Kathy.SchneebeckDulnoan@anadarko.com		
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML 22582		11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		
13. NAME OF SURFACE OWNER (if box 12 = 'fee')				14. SURFACE OWNER PHONE (if box 12 = 'fee')		
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')				16. SURFACE OWNER E-MAIL (if box 12 = 'fee')		
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	2133 FNL 490 FEL	SENE	35	9.0 S	21.0 E	S
Top of Uppermost Producing Zone	1743 FNL 495 FEL	SENE	35	9.0 S	21.0 E	S
At Total Depth	1743 FNL 495 FEL	SENE	35	9.0 S	21.0 E	S
21. COUNTY UINTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 495		23. NUMBER OF ACRES IN DRILLING UNIT 321		
		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 343		26. PROPOSED DEPTH MD: 10609 TVD: 10580		
27. ELEVATION - GROUND LEVEL 5098		28. BOND NUMBER 22013542		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #43-8496		
ATTACHMENTS						
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES						
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER			<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN			
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)			<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER			
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)			<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP			
NAME Danielle Piernot		TITLE Regulatory Analyst		PHONE 720 929-6156		
SIGNATURE		DATE 11/23/2010		EMAIL gnbregulatory@anadarko.com		
API NUMBER ASSIGNED 43047513660000		APPROVAL Permit Manager				

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	10609		
Pipe	Grade	Length	Weight			
	Grade HCP-110 LT&C	10609	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2600		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2600	36.0			

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 921-35H1CS**

Surface:	2133 FNL / 490 FEL	SENE
BHL:	1743 FNL / 495 FEL	SENE

Section 35 T9S R21E

Unitah County, Utah
Mineral Lease: ST UT ML 22582

ONSHORE ORDER NO. 1**DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1450	
Birds Nest	1778	Water
Mahogany	2152	Water
Wasatch	4738	Gas
Mesaverde	7465	Gas
MVU2	8351	Gas
MVL1	8934	Gas
Sego*	9673	
Castlegate*	9708	
MN5*	10130	
TVD	10580	
TD	10609	

* The Blackhawk formation is in the Mesaverde group

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 10,580' TVD, approximately equals 7,031 psi (calculated at 0.66 psi/foot).

Maximum anticipated surface pressure equals approximately 4,703 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. **Anticipated Starting Dates:**

9. **Variances:**

*Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance*

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. **Other Information:**

Please refer to the attached Drilling Program.

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	November 17, 2010	
WELL NAME	NBU 921-35H1CS					TD	10,580'	10,609' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	5,098'
SURFACE LOCATION	SENE	2133 FNL	490 FEL	Sec 35	T 9S	R 21E		
	Latitude:	39.993929	Longitude:	-109.510535		NAD 27		
BTM HOLE LOCATION	SENE	1743 FNL	495 FEL	Sec 35	T 9S	R 21E		
	Latitude:	39.995	Longitude:	-109.510557		NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde							
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.							

NBU 921-35H1CS Drilling Program-Directional well-Blackhawk-updated 081010



KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,600'	36.00	IJ-55	LTC	0.73	1.66	6.16
						10,690	8,650	367,000
PRODUCTION	4-1/2"	0 to 10,609'	11.60	HCP-110	BTC	4.58	1.21	3.72

*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.15

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 13.0 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

MASP 4,703 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 13.0 ppg)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

MABHP 7,031 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	220	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	330	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	2,100'	65/35 Poz + 6% Gel + 10 pps gilsonite	240	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	190	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,229'	Premium Lite II + 3% KCl + 0.25 pps	320	20%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel	1,340	20%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: John Huycke / Emile Goodwin

DRILLING SUPERINTENDENT: John Merkel / Lovel Young

SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

T9S, R21E, S.L.B.&M.

WEST - 80.00 (G.L.O.)

N89°47'37"W - 2646.18' (Meas.)

N89°47'25"W - 2645.99' (Meas.)

Found 1"
Aluminum Cap on
5/8" Rebar. Pile
of Stones.Found Uintah
County Aluminum
Cap in Pile of
Stones.Found Uintah
County Aluminum
Cap in Pile of
Stones.**WELL LOCATION:
NBU 921-35H1CS**

ELEV. UNGRADED GROUND = 5098.3'

35

N00°03'W - 81.10' (G.L.O.)

N00°21'17"W - 2645.28' (Meas.)

Found Uintah County
Surveyor 1½" Aluminum
Cap on 5/8" Rebar in
Pile of Stones.Bottom
of Hole
Well Surface
Position1743'
2133'

N00°03'41"W (Basis of Bearings)

2641.51' (Measured)
N00°03'E - 79.80' (G.L.O.)Found 1½" Aluminum
Cap on 5/8" Rebar in
Pile of Stones.

NBU 921-35H1CS (Surface Position)

NAD 83 LATITUDE = 39.993893° (39° 59' 38.017")
LONGITUDE = 109.511222° (109° 30' 40.399")
NAD 27 LATITUDE = 39.993929° (39° 59' 38.143")
LONGITUDE = 109.510535° (109° 30' 37.926")

NBU 921-35H1CS (Bottom Hole)

NAD 83 LATITUDE = 39.994965° (39° 59' 41.874")
LONGITUDE = 109.511243° (109° 30' 40.477")
NAD 27 LATITUDE = 39.995000° (39° 59' 42.000")
LONGITUDE = 109.510557° (109° 30' 38.004")

LOT 4

LOT 1

Found 1977
Brass Cap in
Pile of Stones.2.50 (G.L.O.)
164.44'Found 1977 Brass
Cap in Pile of Stones.

2501.71'

LOT 3

LOT 2

2.19 (G.L.O.)
144.58'Found 1977
Brass Cap

2543.51'

S89°07'53"W - 2666.15' (Meas.)

S89°06'W - 40.39 (G.L.O.)

Found 1977
Brass Cap

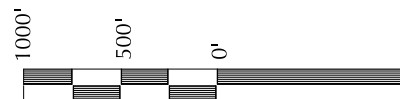
S89°14'29"W - 2688.09' (Meas.)

S89°12'W - 40.73 (G.L.O.)

Found 1977
Brass Cap99.10'
1.51 (G.L.O.)
2678.51' (Meas.)
S89°06'03"W
S89°06'W - 40.59 (G.L.O.)Found 1977
Brass Cap in
Pile of Stones.**NOTES:**

▲ = Section Corners Located

- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.
1 chain = 66 feet.
- The Bottom of hole bears N00°51'36"W 390.49' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202**WELL PAD: NBU 921-35H****NBU 921-35H1CS
WELL PLAT**1743' FNL, 495' FEL (Bottom Hole)
SE ¼ NE ¼ OF SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH.**CONSULTING, LLC**
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

SCALE

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PROFESSIONAL LAND SURVEYOR
No. 6028691
JOHN R. RAUGH
STATE OF UTAH

TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

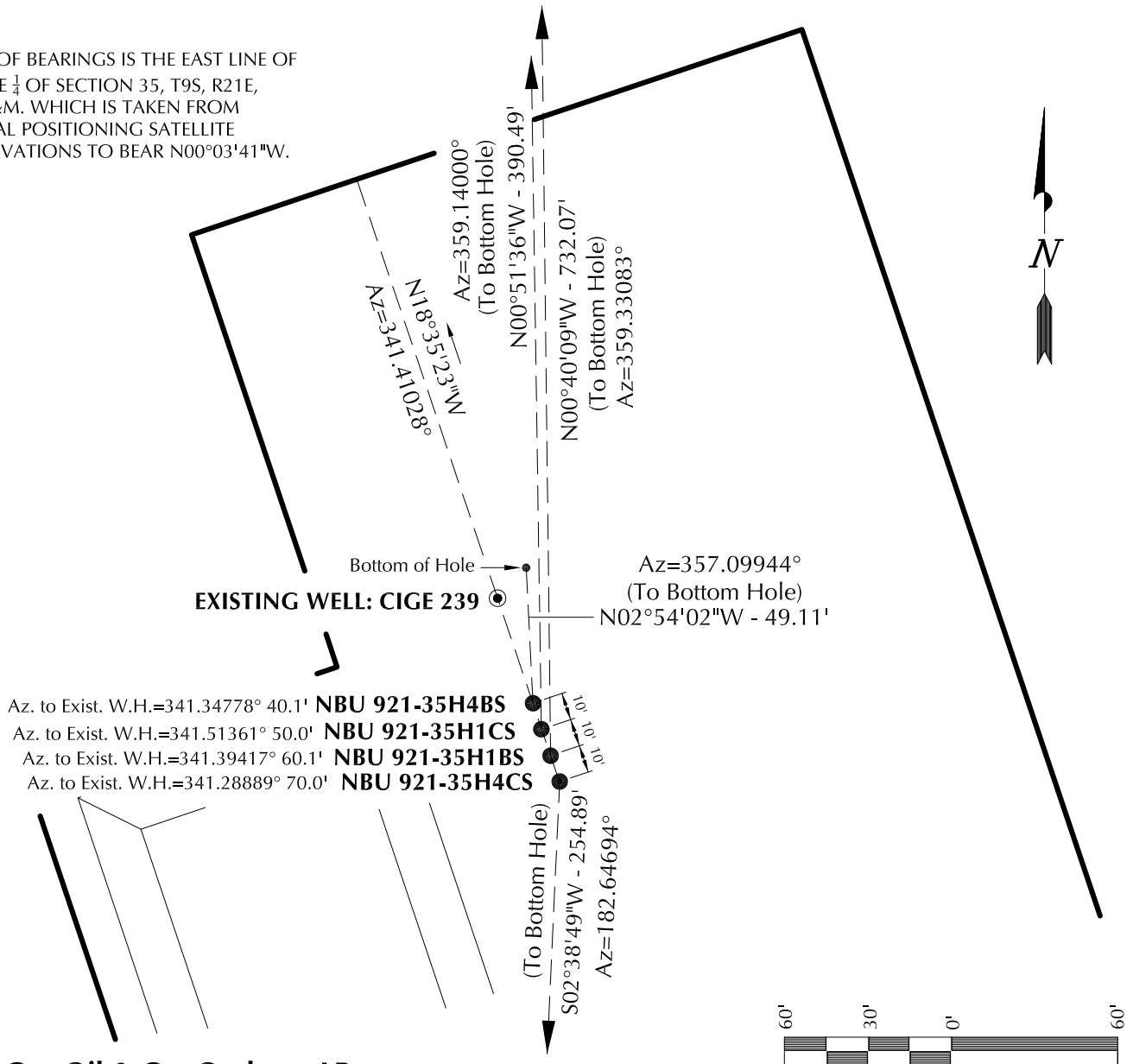
DATE SURVEYED: 9-30-10	SURVEYED BY: M.S.B.	SHEET NO:
DATE DRAWN: 10-01-10	DRAWN BY: E.M.S.	2
SCALE: 1" = 1000'	Date Last Revised:	2 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 921-35H4BS	39°59'38.109"	109°30'40.437"	39°59'38.235"	109°30'37.965"	2124' FNL 493' FEL	39°59'38.594"	109°30'40.470"	39°59'38.720"	109°30'37.997"	2075' FNL 495' FEL
NBU 921-35H1CS	39°59'38.017"	109°30'40.399"	39°59'38.143"	109°30'37.926"	2133' FNL 490' FEL	39°59'41.874"	109°30'40.477"	39°59'42.000"	109°30'38.004"	1743' FNL 495' FEL
NBU 921-35H1BS	39°59'37.922"	109°30'40.356"	39°59'38.048"	109°30'37.883"	2143' FNL 486' FEL	39°59'45.154"	109°30'40.471"	39°59'45.280"	109°30'37.998"	1411' FNL 494' FEL
NBU 921-35H4CS	39°59'37.829"	109°30'40.313"	39°59'37.956"	109°30'37.841"	2152' FNL 483' FEL	39°59'35.314"	109°30'40.463"	39°59'35.440"	109°30'37.990"	2407' FNL 495' FEL
CIGE 239	39°59'38.485"	109°30'40.602"	39°59'38.611"	109°30'38.130"	2086' FNL 505' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 921-35H4BS	49.0'	-2.5'	NBU 921-35H1CS	390.4'	-5.9'	NBU 921-35H1BS	732.0'	-8.5'	NBU 921-35H4CS	-254.6'	-11.8'

BASIS OF BEARINGS IS THE EAST LINE OF THE NE $\frac{1}{4}$ OF SECTION 35, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°03'41"W.



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35H

WELL PAD INTERFERENCE PLAT
WELLS - NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH.



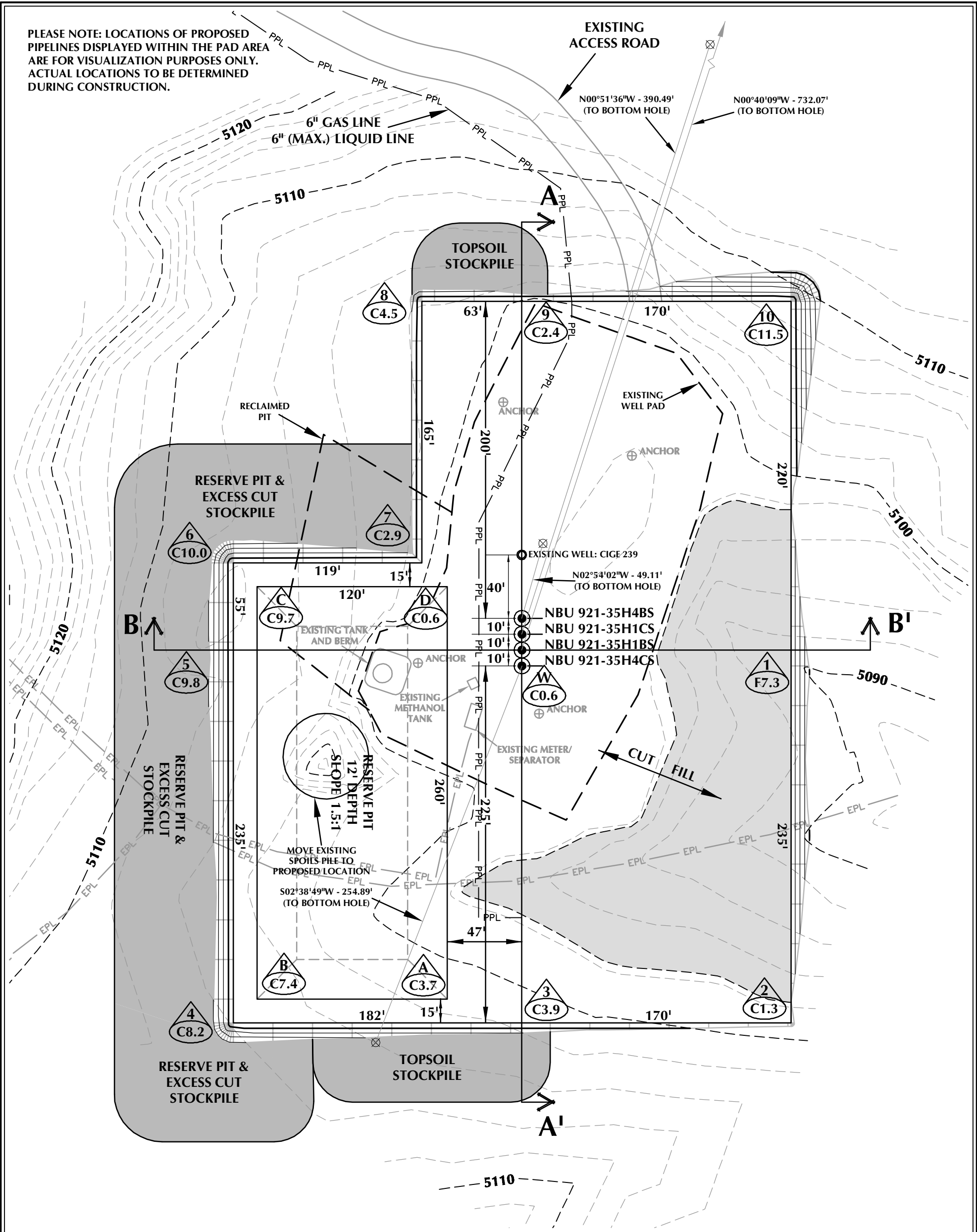
CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 9-30-10	SURVEYED BY: M.S.B.	SHEET NO: 5 5 OF 16
DATE DRAWN: 10-01-10	DRAWN BY: E.M.S.	
SCALE: 1" = 60'	Date Last Revised:	



WELL PAD - NBU 921-35H DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5098.3'
FINISHED GRADE ELEVATION = 5097.7'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.57 ACRES
TOTAL DAMAGE AREA = 6.28 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35H

WELL PAD - LOCATION LAYOUT
NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 10,957 C.Y.
TOTAL FILL FOR WELL PAD = 4,429 C.Y.
TOPSOIL @ 6" DEPTH = 2,087 C.Y.
EXCESS MATERIAL = 6,528 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 11,020 CY
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 42,290 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL PROPOSED PIPELINE
- EPL EXISTING PIPELINE



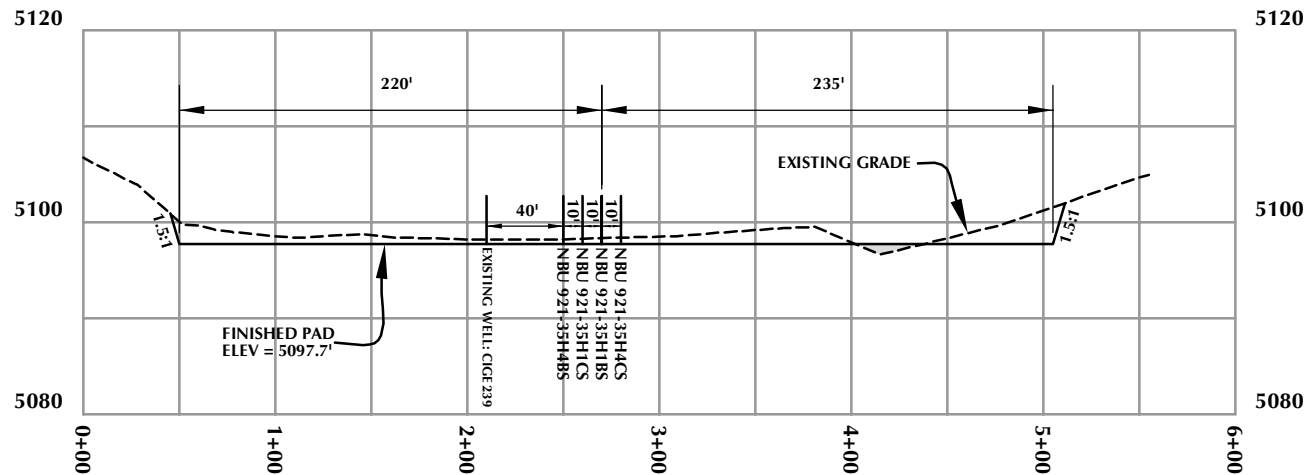
HORIZONTAL 0 30 60 1" = 60'
2' CONTOURS

Scale: 1"=60' Date: 10/15/10 SHEET NO:

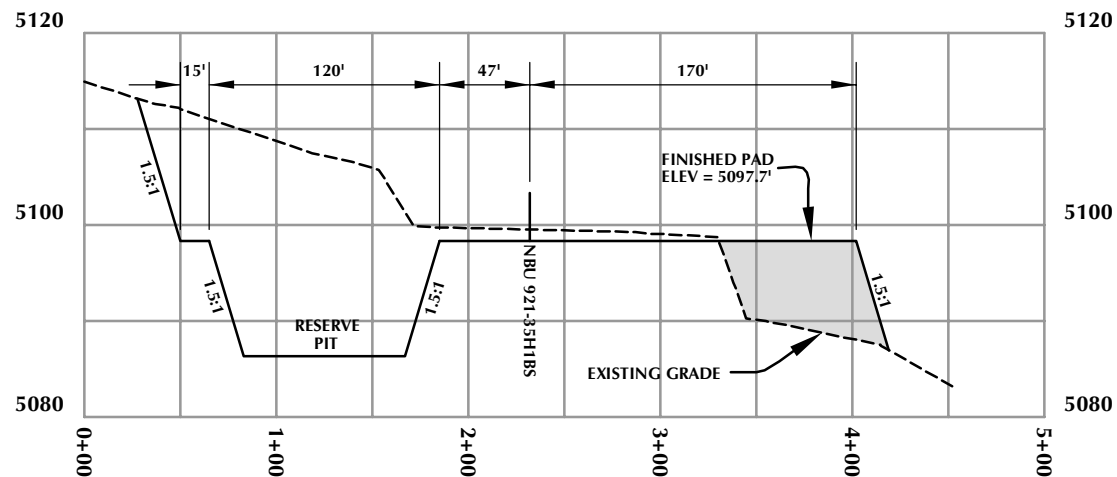
REVISED:

6

6 OF 16



CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35H

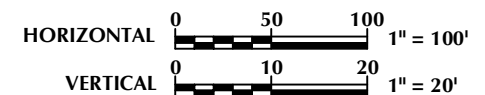
WELL PAD - CROSS SECTIONS
NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

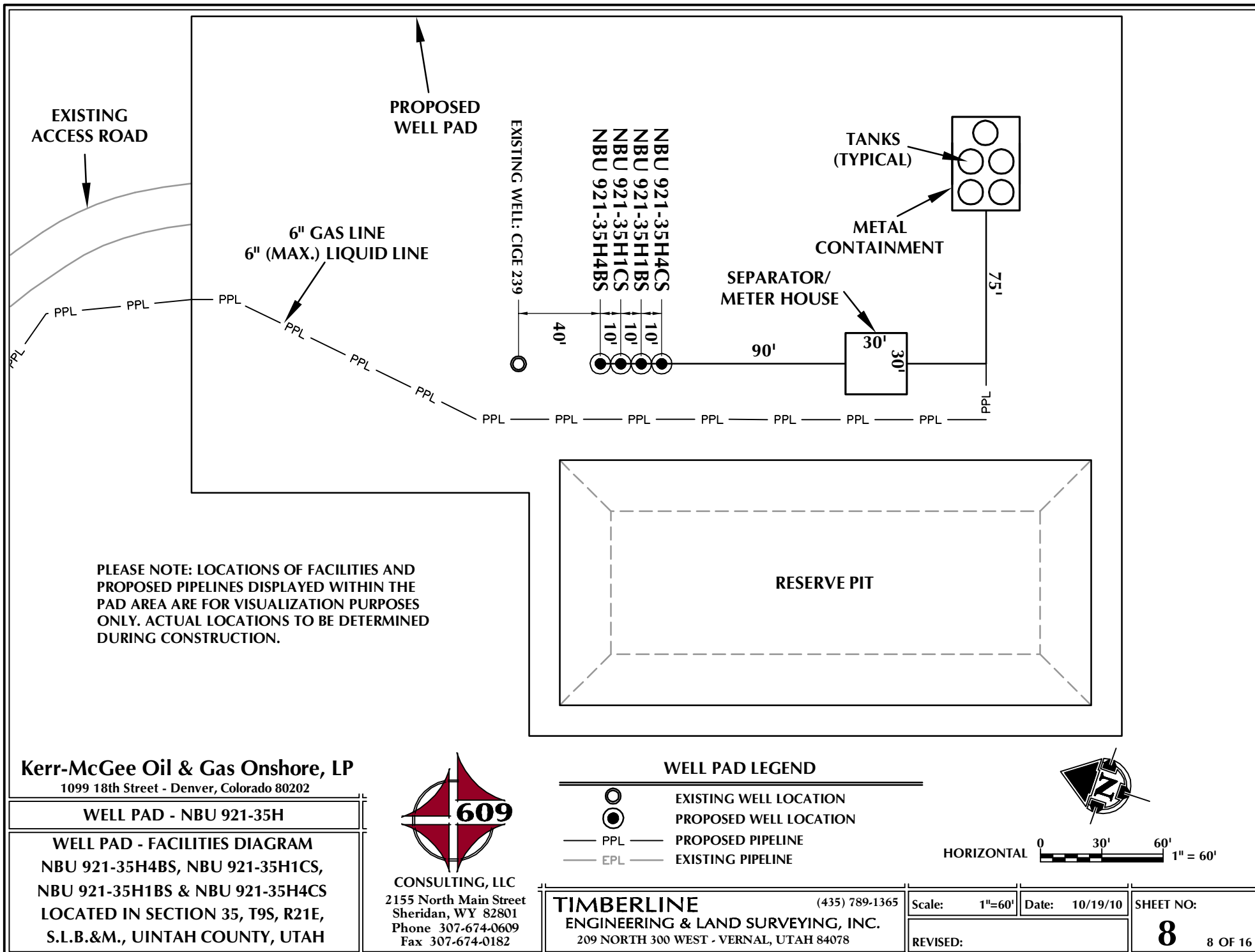
TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365



Scale: 1"=100'	Date: 10/19/10	SHEET NO:
REVISED:		7 7 OF 16

'APIW_e\\jnc:43047513660000'
K:\APIW_e\\jnc:43047513660000\NBU 921-35H_PAD.dwg, 10/19/2010 5:51:56 PM



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35H

WELL PAD - FACILITIES DIAGRAM
NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

Scale: 1"=60'

Date: 10/19/10

SHEET NO:

8

8 OF 16

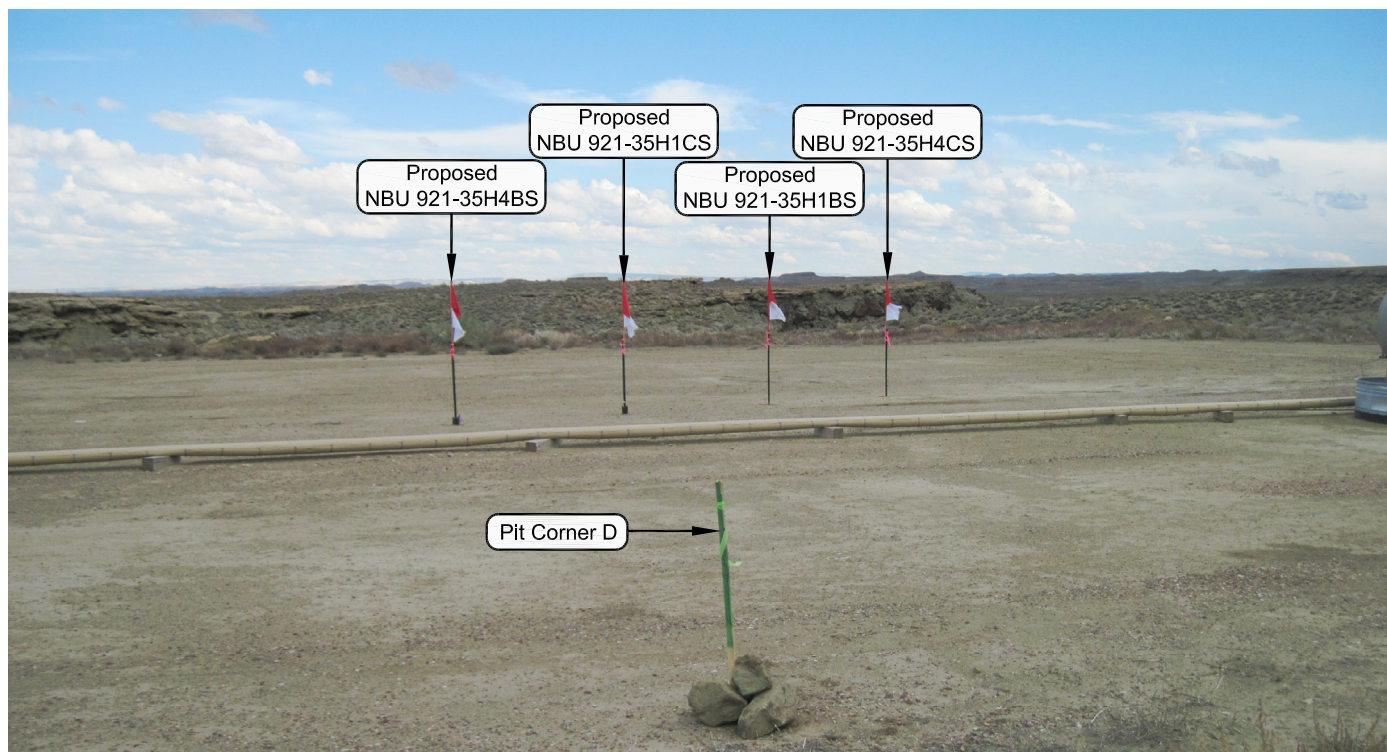


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHEASTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35H

LOCATION PHOTOS
NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.



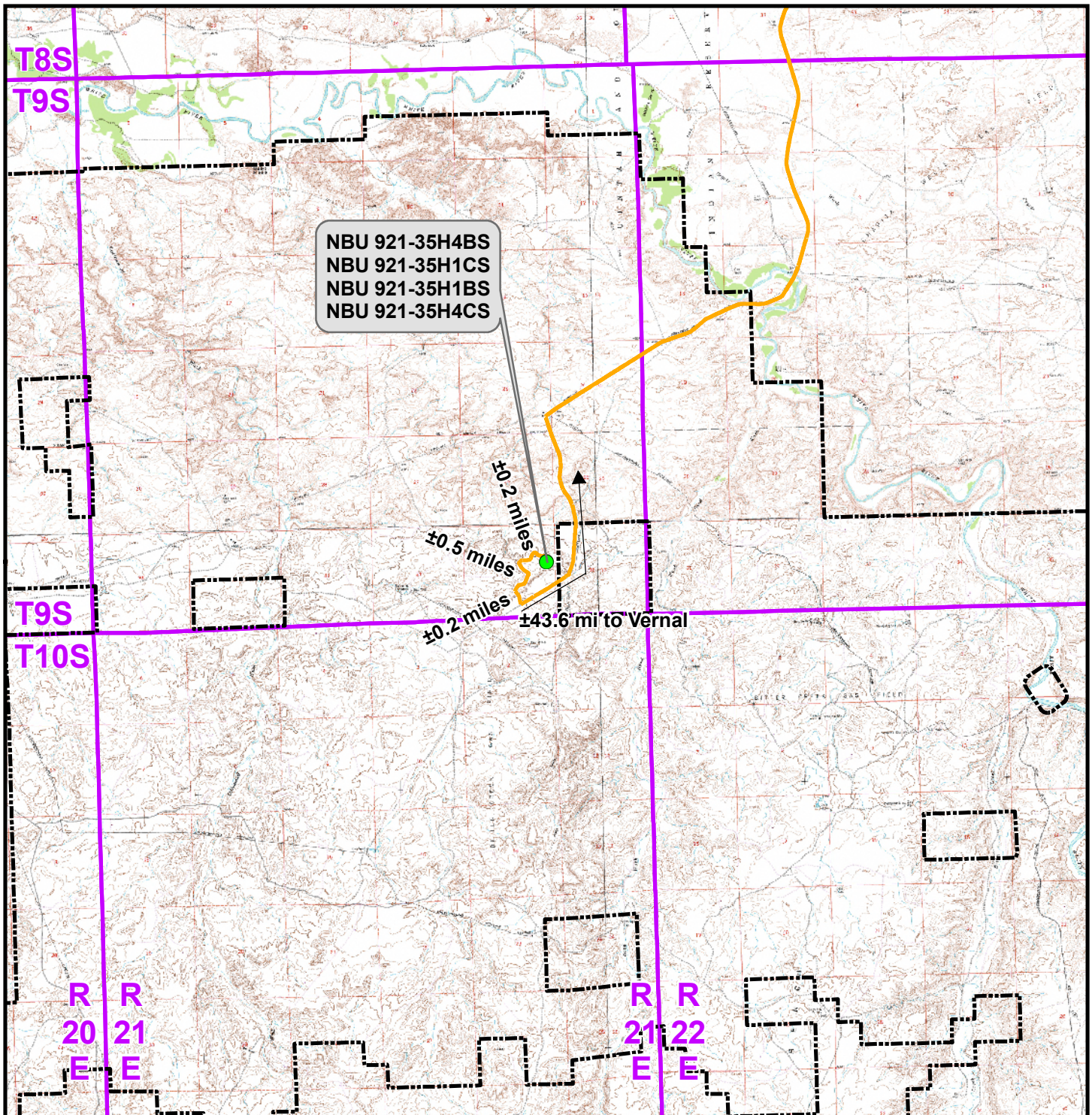
CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 9-30-10	PHOTOS TAKEN BY: M.S.B.	9 SHEET NO: 9 OF 16
DATE DRAWN: 10-01-10	DRAWN BY: E.M.S.	
Date Last Revised:		



Legend

- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

Distance From Well Pad - NBU 921-35H To Unit Boundary: ±483ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 921-35H

TOPO A

NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



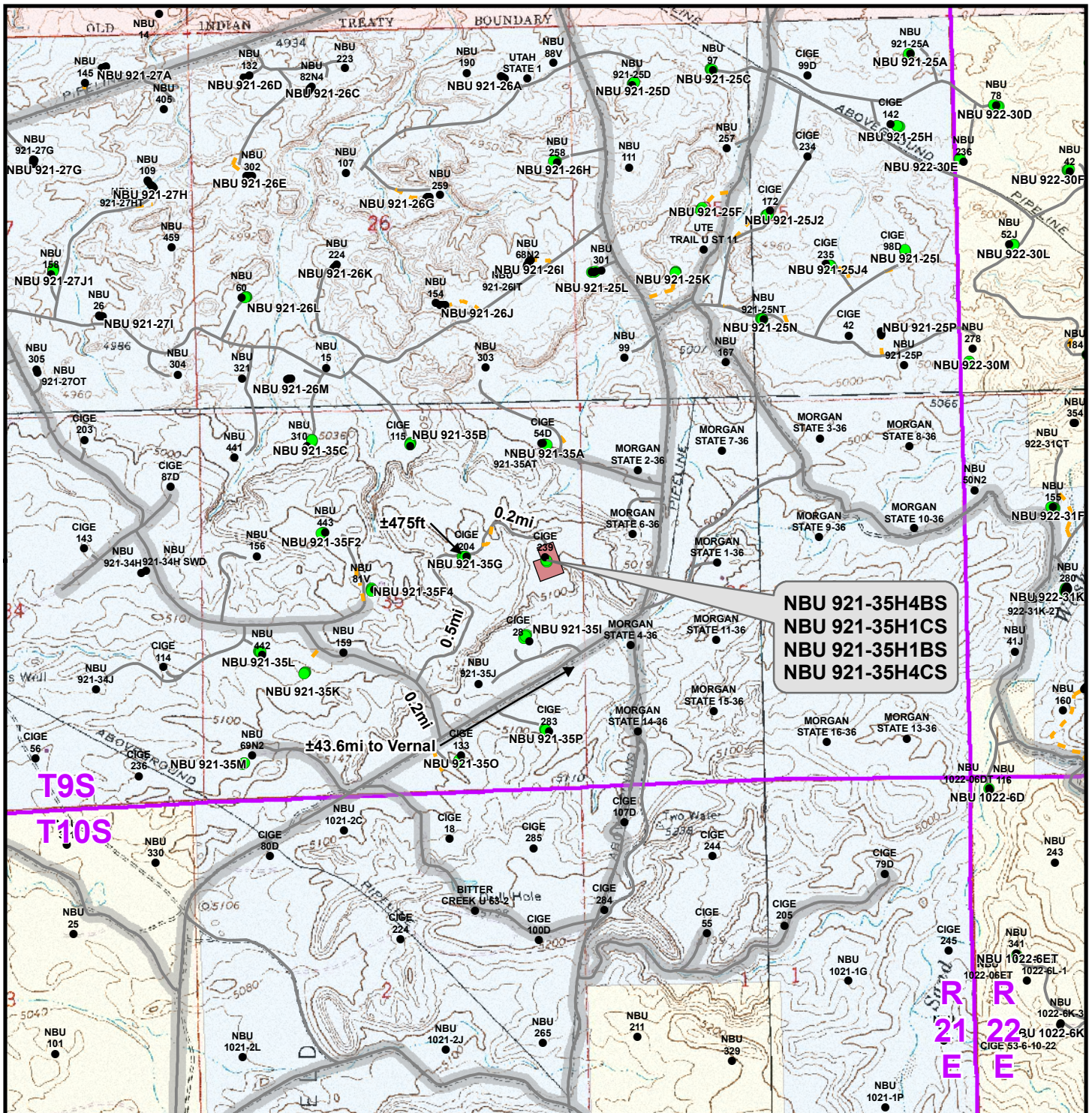
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1:100,000	NAD83 USP Central
Drawn: CPS	Date: 19 Oct 2010
Revised:	Date:

Sheet No:

10 10 of 16



Legend

- | | | | | | |
|--|--|--|---|---|---|
| ● Well - Proposed | Well Pad | --- Road - Proposed | County Road | Bureau of Land Management | State |
| ● Well - Existing | Road - Existing | Indian Reservation | Private | | |

Total Proposed Road Re-Route Length: ±0ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 921-35H

TOPO B

**NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH**

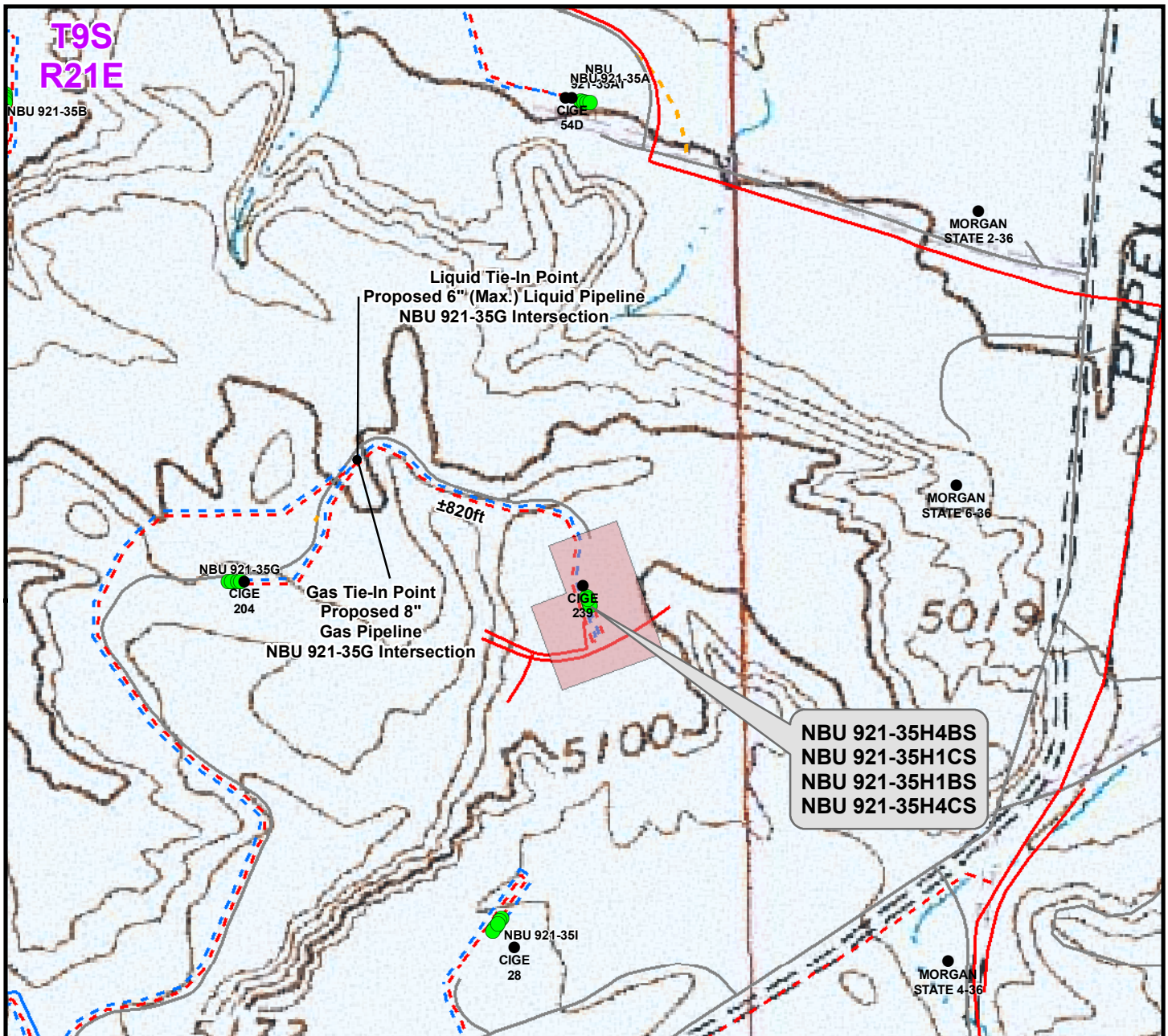


Scale: 1" = 2,000ft	NAD83 USP Central
Drawn: CPS	Date: 19 Oct 2010
Revised:	Date:

Sheet No:
11
11 of 16

Sheet No:
12 12 of 16

Sheet No:
13
13 of 16



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±490ft
Proposed 6" (Max.) (Edge of Pad to 35G Intersection)	±820ft
TOTAL PROPOSED LIQUID PIPELINE =	± 1,310ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±490ft
Proposed 6" (Edge of Pad to 35G Intersection)	±820ft
TOTAL PROPOSED GAS PIPELINE =	±1,310ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- - - Gas Pipeline - Proposed
- - - Gas Pipeline - To Be Upgraded
- - - Gas Pipeline - Existing
- - - Liquid Pipeline - Proposed
- - - Liquid Pipeline - To Be Upgraded
- - - Liquid Pipeline - Existing
- - - Road - Proposed
- - - Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 921-35H

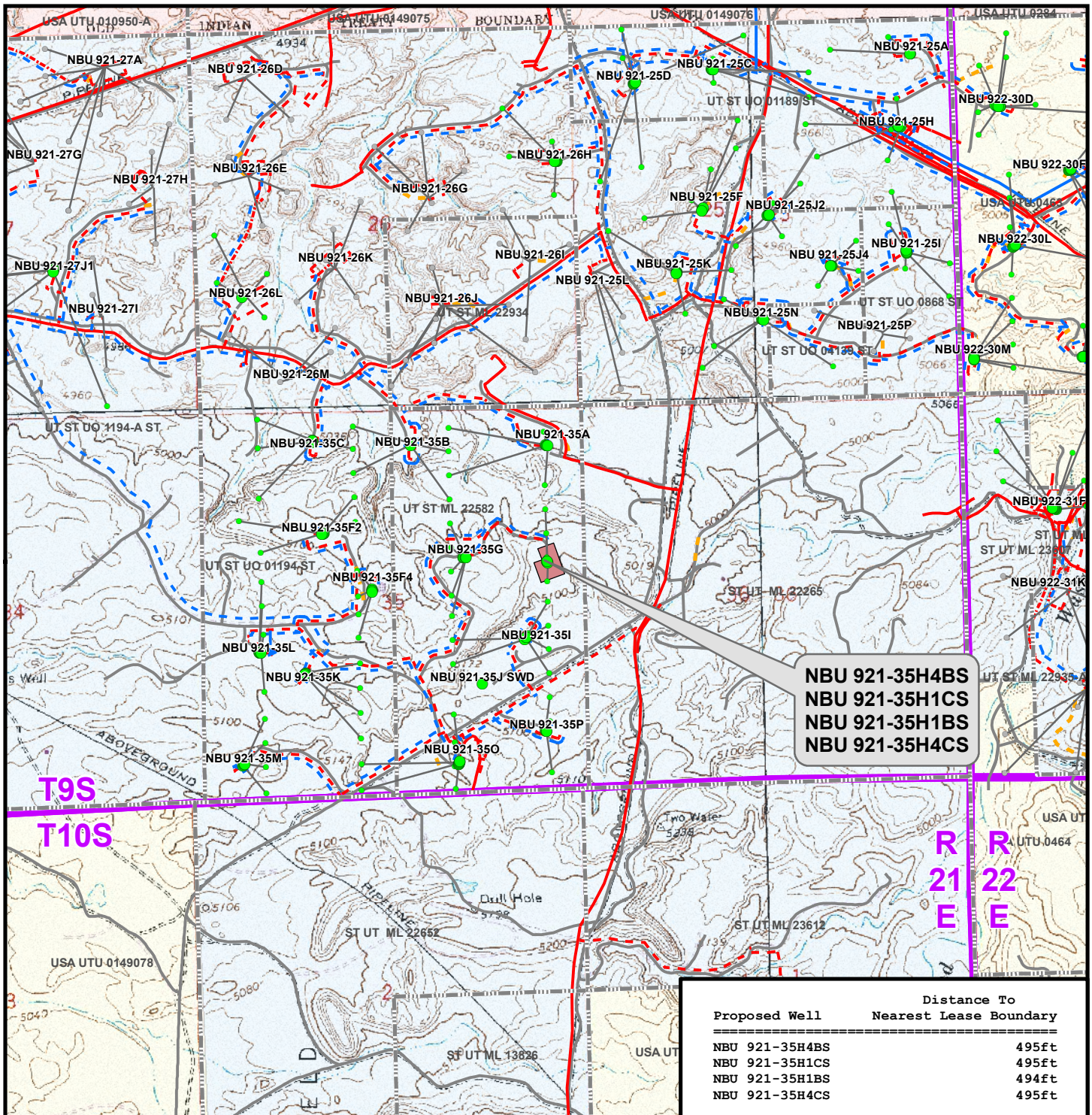
TOPO D2 (PAD & PIPELINE DETAIL)
NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



Scale: 1" = 500ft	NAD83 USP Central
Drawn: CPS	Date: 19 Oct 2010
Revised: TL	Date: 9 Dec 2010

Sheet No:

14 14 of 16



Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 921-35H

TOPO E

NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 19 Oct 2010	15
Revised: TL	Date: 9 Dec 2010	

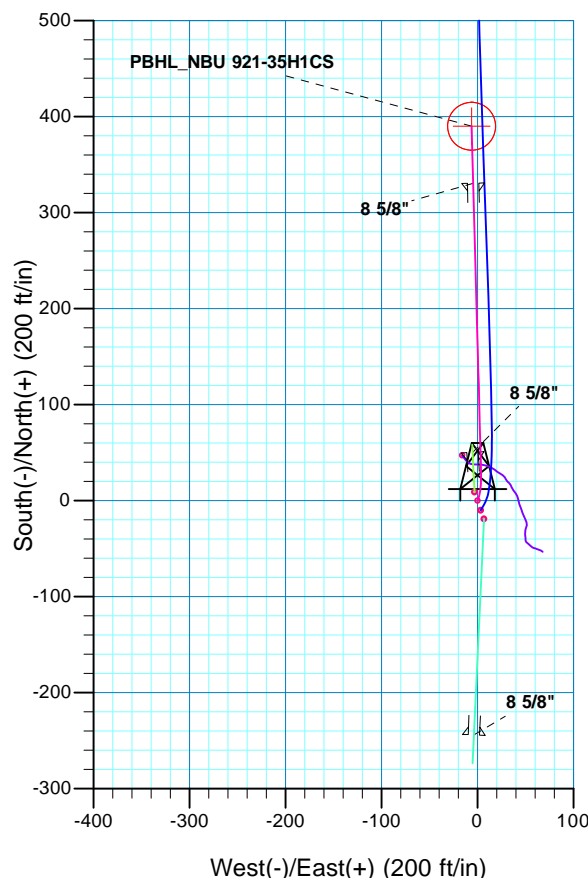
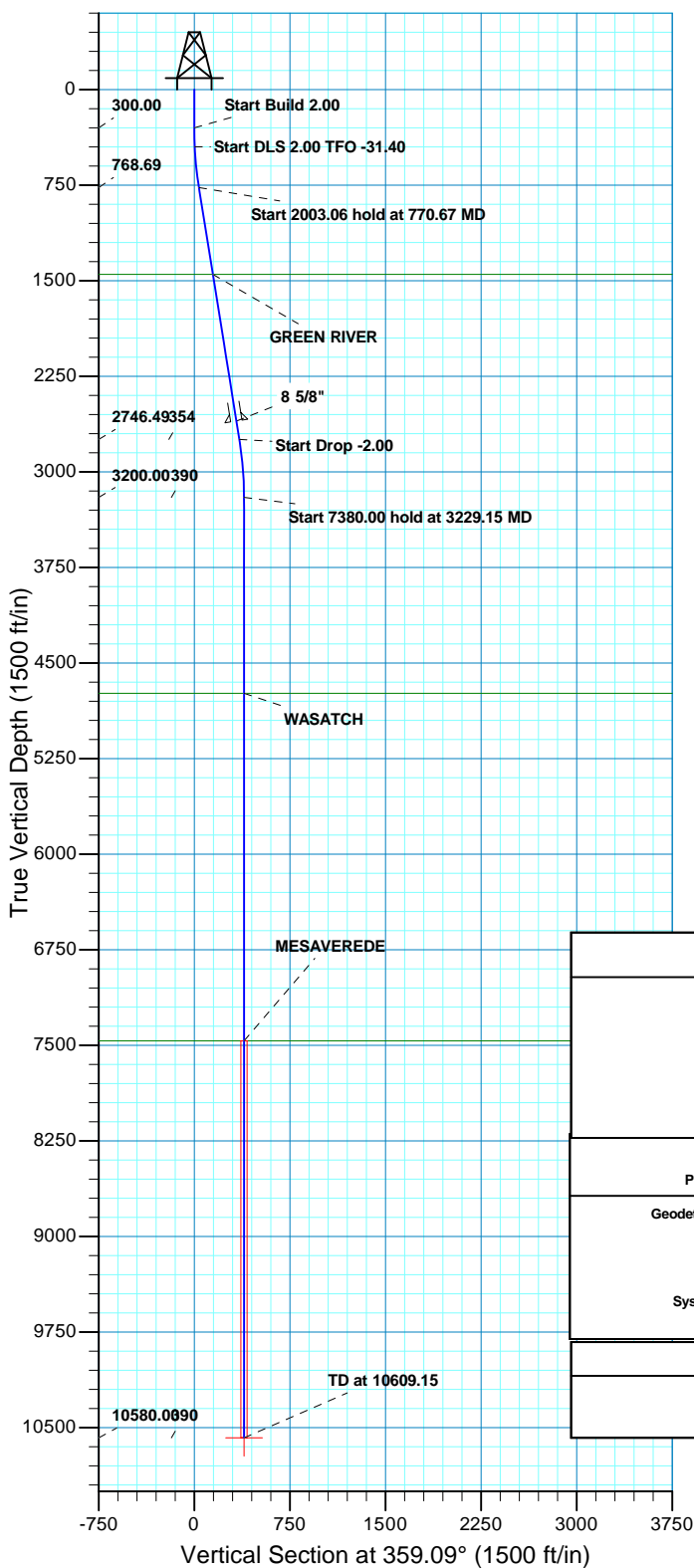
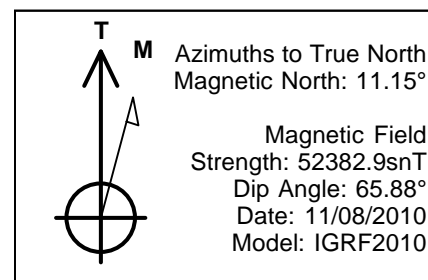
15 of 16

**Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 921-35H
WELLS – NBU 921-35H4BS, NBU 921-35H1CS,
NBU 921-35H1BS & NBU 921-35H4CS
Section 35, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 20.1 miles to a Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the Class D County Road approximately 0.2 miles to a service road to the northeast. Exit right and proceed in a northeasterly direction along the service road approximately 0.5 miles to the proposed NBU 921-35G well pad. Continue in a northeasterly direction through the proposed NBU 921-35G well pad approximately 475 feet. Continue in a northeasterly then southeasterly direction approximately 0.2 miles along the service road to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 44.6 miles in a southerly direction.

WELL DETAILS: P_NBU 921-35H1CS							
GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)							
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
	0.00	0.00	14527319.26	2057598.92	39° 59' 38.144 N	109° 30' 37.926 W	
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL	10580.00	390.07	-6.16	14527709.16	2057586.24	39° 59' 42.000 N	109° 30' 38.005 W
- plan hits target center							
Shape							
Circle (Radius: 25.00)							



SECTION DETAILS									
	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
	450.00	3.00	20.00	449.93	3.69	1.34	2.00	20.00	3.67
	770.67	9.11	358.43	768.69	36.98	3.52	2.00	-31.40	36.92
	2773.73	9.11	358.43	2746.49	353.96	-5.17	0.00	0.00	353.99
	3229.15	0.00	0.00	3200.00	390.07	-6.16	2.00	180.00	390.11
	10609.15	0.00	0.00	10580.00	390.07	-6.16	0.00	0.00	390.11
									PBHL_NBU 921-35H1CS
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N							FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 35 T9S R21E System Datum: Mean Sea Level							TVDPath	MDPath	Formation
							1450.00	1460.68	GREEN RIVER
							4738.00	4767.15	WASATCH
							7465.00	7494.15	MESAVEREDE
CASING DETAILS									
				TVD	MD	Name	Size		
				2602.00	2627.39	8 5/8"	8.625		

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

NBU 921-35H PAD

P_NBU 921-35H1CS

P_NBU 921-35H1CS

Plan: PLAN #1 11-8-10 RHS

Standard Planning Report

09 November, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 921-35H PAD, SECTION 35 T9S R21E		
Site Position:		Northing:	14,527,300.44 usft
From:	Lat/Long	Easting:	2,057,605.96 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 59' 37.957 N
		Longitude:	109° 30' 37.840 W
		Grid Convergence:	0.96 °

Well	P_NBU 921-35H1CS, 2133' FNL 490' FEL					
Well Position	+N/-S	18.94 ft	Northing:	14,527,319.26 usft	Latitude:	39° 59' 38.144 N
	+E/-W	-6.72 ft	Easting:	2,057,598.92 usft	Longitude:	109° 30' 37.926 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,098.00 ft

Wellbore	P_NBU 921-35H1CS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/08/2010	11.16	65.88	52,383

Design	PLAN #1 11-8-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.09

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	3.00	20.00	449.93	3.69	1.34	2.00	2.00	0.00	20.00	
770.67	9.11	358.43	768.69	36.98	3.52	2.00	1.90	-6.73	-31.40	
2,773.73	9.11	358.43	2,746.49	353.96	-5.17	0.00	0.00	0.00	0.00	
3,229.15	0.00	0.00	3,200.00	390.07	-6.16	2.00	-2.00	0.00	180.00	
10,609.15	0.00	0.00	10,580.00	390.07	-6.16	0.00	0.00	0.00	0.00	PBHL_NBU 921-35H

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.00										
400.00	2.00	20.00	399.98	1.64	0.60	1.63	2.00	2.00	0.00	
450.00	3.00	20.00	449.93	3.69	1.34	3.67	2.00	2.00	0.00	
Start DLS 2.00 TFO -31.40										
500.00	3.89	12.29	499.84	6.58	2.15	6.54	2.00	1.78	-15.41	
600.00	5.78	4.28	599.48	14.91	3.25	14.85	2.00	1.89	-8.02	
700.00	7.72	0.24	698.79	26.64	3.65	26.58	2.00	1.94	-4.04	
770.67	9.11	358.43	768.69	36.98	3.52	36.92	2.00	1.96	-2.56	
Start 2003.06 hold at 770.67 MD										
800.00	9.11	358.43	797.65	41.62	3.39	41.56	0.00	0.00	0.00	
900.00	9.11	358.43	896.39	57.45	2.96	57.39	0.00	0.00	0.00	
1,000.00	9.11	358.43	995.13	73.27	2.52	73.22	0.00	0.00	0.00	
1,100.00	9.11	358.43	1,093.87	89.10	2.09	89.05	0.00	0.00	0.00	
1,200.00	9.11	358.43	1,192.61	104.92	1.66	104.88	0.00	0.00	0.00	
1,300.00	9.11	358.43	1,291.35	120.75	1.22	120.71	0.00	0.00	0.00	
1,400.00	9.11	358.43	1,390.09	136.57	0.79	136.54	0.00	0.00	0.00	
1,460.68	9.11	358.43	1,450.00	146.17	0.53	146.15	0.00	0.00	0.00	
GREEN RIVER										
1,500.00	9.11	358.43	1,488.83	152.39	0.35	152.37	0.00	0.00	0.00	
1,600.00	9.11	358.43	1,587.57	168.22	-0.08	168.20	0.00	0.00	0.00	
1,700.00	9.11	358.43	1,686.30	184.04	-0.51	184.03	0.00	0.00	0.00	
1,800.00	9.11	358.43	1,785.04	199.87	-0.95	199.86	0.00	0.00	0.00	
1,900.00	9.11	358.43	1,883.78	215.69	-1.38	215.69	0.00	0.00	0.00	
2,000.00	9.11	358.43	1,982.52	231.52	-1.82	231.52	0.00	0.00	0.00	
2,100.00	9.11	358.43	2,081.26	247.34	-2.25	247.35	0.00	0.00	0.00	
2,200.00	9.11	358.43	2,180.00	263.17	-2.68	263.18	0.00	0.00	0.00	
2,300.00	9.11	358.43	2,278.74	278.99	-3.12	279.00	0.00	0.00	0.00	
2,400.00	9.11	358.43	2,377.48	294.81	-3.55	294.83	0.00	0.00	0.00	
2,500.00	9.11	358.43	2,476.22	310.64	-3.98	310.66	0.00	0.00	0.00	
2,600.00	9.11	358.43	2,574.96	326.46	-4.42	326.49	0.00	0.00	0.00	
2,627.39	9.11	358.43	2,602.00	330.80	-4.54	330.83	0.00	0.00	0.00	
8 5/8"										
2,700.00	9.11	358.43	2,673.69	342.29	-4.85	342.32	0.00	0.00	0.00	
2,773.73	9.11	358.43	2,746.49	353.96	-5.17	353.99	0.00	0.00	0.00	
Start Drop -2.00										
2,800.00	8.58	358.43	2,772.45	357.99	-5.28	358.03	2.00	-2.00	0.00	
2,900.00	6.58	358.43	2,871.57	371.18	-5.64	371.23	2.00	-2.00	0.00	
3,000.00	4.58	358.43	2,971.09	380.91	-5.91	380.95	2.00	-2.00	0.00	
3,100.00	2.58	358.43	3,070.89	387.16	-6.08	387.20	2.00	-2.00	0.00	
3,200.00	0.58	358.43	3,170.85	389.92	-6.16	389.97	2.00	-2.00	0.00	
3,229.15	0.00	0.00	3,200.00	390.07	-6.16	390.11	2.00	-2.00	0.00	
Start 7380.00 hold at 3229.15 MD										
3,300.00	0.00	0.00	3,270.85	390.07	-6.16	390.11	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,370.85	390.07	-6.16	390.11	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,470.85	390.07	-6.16	390.11	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,570.85	390.07	-6.16	390.11	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,670.85	390.07	-6.16	390.11	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,770.85	390.07	-6.16	390.11	0.00	0.00	0.00	

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,900.00	0.00	0.00	3,870.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,000.00	0.00	0.00	3,970.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,100.00	0.00	0.00	4,070.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,200.00	0.00	0.00	4,170.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,300.00	0.00	0.00	4,270.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,400.00	0.00	0.00	4,370.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,500.00	0.00	0.00	4,470.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,600.00	0.00	0.00	4,570.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,700.00	0.00	0.00	4,670.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,767.15	0.00	0.00	4,738.00	390.07	-6.16	390.11	0.00	0.00	0.00
WASATCH									
4,800.00	0.00	0.00	4,770.85	390.07	-6.16	390.11	0.00	0.00	0.00
4,900.00	0.00	0.00	4,870.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,000.00	0.00	0.00	4,970.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,100.00	0.00	0.00	5,070.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,200.00	0.00	0.00	5,170.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,300.00	0.00	0.00	5,270.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,400.00	0.00	0.00	5,370.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,500.00	0.00	0.00	5,470.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,600.00	0.00	0.00	5,570.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,700.00	0.00	0.00	5,670.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,800.00	0.00	0.00	5,770.85	390.07	-6.16	390.11	0.00	0.00	0.00
5,900.00	0.00	0.00	5,870.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,000.00	0.00	0.00	5,970.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,100.00	0.00	0.00	6,070.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,200.00	0.00	0.00	6,170.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,300.00	0.00	0.00	6,270.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,400.00	0.00	0.00	6,370.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,500.00	0.00	0.00	6,470.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,600.00	0.00	0.00	6,570.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,700.00	0.00	0.00	6,670.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,800.00	0.00	0.00	6,770.85	390.07	-6.16	390.11	0.00	0.00	0.00
6,900.00	0.00	0.00	6,870.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,000.00	0.00	0.00	6,970.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,100.00	0.00	0.00	7,070.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,200.00	0.00	0.00	7,170.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,300.00	0.00	0.00	7,270.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,400.00	0.00	0.00	7,370.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,494.15	0.00	0.00	7,465.00	390.07	-6.16	390.11	0.00	0.00	0.00
MESAVEREDE									
7,500.00	0.00	0.00	7,470.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,600.00	0.00	0.00	7,570.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,700.00	0.00	0.00	7,670.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,800.00	0.00	0.00	7,770.85	390.07	-6.16	390.11	0.00	0.00	0.00
7,900.00	0.00	0.00	7,870.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,000.00	0.00	0.00	7,970.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,100.00	0.00	0.00	8,070.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,200.00	0.00	0.00	8,170.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,300.00	0.00	0.00	8,270.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,400.00	0.00	0.00	8,370.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,500.00	0.00	0.00	8,470.85	390.07	-6.16	390.11	0.00	0.00	0.00
8,600.00	0.00	0.00	8,570.85	390.07	-6.16	390.11	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,700.00	0.00	0.00	8,670.85	390.07	-6.16	390.11	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,770.85	390.07	-6.16	390.11	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,870.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,970.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,070.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,170.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,270.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,370.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,470.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,570.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,670.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,770.85	390.07	-6.16	390.11	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,870.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,970.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,100.00	0.00	0.00	10,070.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,200.00	0.00	0.00	10,170.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,300.00	0.00	0.00	10,270.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,400.00	0.00	0.00	10,370.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,500.00	0.00	0.00	10,470.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,600.00	0.00	0.00	10,570.85	390.07	-6.16	390.11	0.00	0.00	0.00	
10,609.15	0.00	0.00	10,580.00	390.07	-6.16	390.11	0.00	0.00	0.00	
TD at 10609.15 - PBHL_NBU 921-35H1CS										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
PBHL_NBU 921-35H1C:	0.00	0.00	10,580.00	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W	
- plan hits target center										
- Circle (radius 25.00)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,627.39	2,602.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,460.68	1,450.00	GREEN RIVER				
4,767.15	4,738.00	WASATCH				
7,494.15	7,465.00	MESAVEREDE				

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

NBU 921-35H PAD

P_NBU 921-35H1CS

P_NBU 921-35H1CS

Plan: PLAN #1 11-8-10 RHS

Standard Planning Report - Geographic

09 November, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 921-35H PAD, SECTION 35 T9S R21E		
Site Position:		Northing:	14,527,300.44 usft
From:	Lat/Long	Easting:	2,057,605.96 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 59' 37.957 N
		Longitude:	109° 30' 37.840 W
		Grid Convergence:	0.96 °

Well	P_NBU 921-35H1CS, 2133' FNL 490' FEL		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	P_NBU 921-35H1CS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/08/2010	11.16	65.88	52,383

Design	PLAN #1 11-8-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.09

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	3.00	20.00	449.93	3.69	1.34	2.00	2.00	0.00	20.00	
770.67	9.11	358.43	768.69	36.98	3.52	2.00	1.90	-6.73	-31.40	
2,773.73	9.11	358.43	2,746.49	353.96	-5.17	0.00	0.00	0.00	0.00	
3,229.15	0.00	0.00	3,200.00	390.07	-6.16	2.00	-2.00	0.00	180.00	
10,609.15	0.00	0.00	10,580.00	390.07	-6.16	0.00	0.00	0.00	0.00	PBHL_NBU 921-35H'

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,527,319.26	2,057,598.92	39° 59' 38.144 N	109° 30' 37.926 W
100.00	0.00	0.00	100.00	0.00	0.00	14,527,319.26	2,057,598.92	39° 59' 38.144 N	109° 30' 37.926 W
200.00	0.00	0.00	200.00	0.00	0.00	14,527,319.26	2,057,598.92	39° 59' 38.144 N	109° 30' 37.926 W
300.00	0.00	0.00	300.00	0.00	0.00	14,527,319.26	2,057,598.92	39° 59' 38.144 N	109° 30' 37.926 W
Start Build 2.00									
400.00	2.00	20.00	399.98	1.64	0.60	14,527,320.91	2,057,599.49	39° 59' 38.161 N	109° 30' 37.918 W
450.00	3.00	20.00	449.93	3.69	1.34	14,527,322.97	2,057,600.20	39° 59' 38.181 N	109° 30' 37.909 W
Start DLS 2.00 TFO -31.40									
500.00	3.89	12.29	499.84	6.58	2.15	14,527,325.87	2,057,600.96	39° 59' 38.209 N	109° 30' 37.898 W
600.00	5.78	4.28	599.48	14.91	3.25	14,527,334.22	2,057,601.92	39° 59' 38.292 N	109° 30' 37.884 W
700.00	7.72	0.24	698.79	26.64	3.65	14,527,345.96	2,057,602.12	39° 59' 38.408 N	109° 30' 37.879 W
770.67	9.11	358.43	768.69	36.98	3.52	14,527,356.29	2,057,601.82	39° 59' 38.510 N	109° 30' 37.881 W
Start 2003.06 hold at 770.67 MD									
800.00	9.11	358.43	797.65	41.62	3.39	14,527,360.93	2,057,601.61	39° 59' 38.556 N	109° 30' 37.882 W
900.00	9.11	358.43	896.39	57.45	2.96	14,527,376.75	2,057,600.91	39° 59' 38.712 N	109° 30' 37.888 W
1,000.00	9.11	358.43	995.13	73.27	2.52	14,527,392.56	2,057,600.22	39° 59' 38.869 N	109° 30' 37.894 W
1,100.00	9.11	358.43	1,093.87	89.10	2.09	14,527,408.38	2,057,599.52	39° 59' 39.025 N	109° 30' 37.899 W
1,200.00	9.11	358.43	1,192.61	104.92	1.66	14,527,424.19	2,057,598.82	39° 59' 39.181 N	109° 30' 37.905 W
1,300.00	9.11	358.43	1,291.35	120.75	1.22	14,527,440.01	2,057,598.12	39° 59' 39.338 N	109° 30' 37.910 W
1,400.00	9.11	358.43	1,390.09	136.57	0.79	14,527,455.82	2,057,597.42	39° 59' 39.494 N	109° 30' 37.916 W
1,460.68	9.11	358.43	1,450.00	146.17	0.53	14,527,465.42	2,057,597.00	39° 59' 39.589 N	109° 30' 37.919 W
GREEN RIVER									
1,500.00	9.11	358.43	1,488.83	152.39	0.35	14,527,471.64	2,057,596.73	39° 59' 39.651 N	109° 30' 37.921 W
1,600.00	9.11	358.43	1,587.57	168.22	-0.08	14,527,487.45	2,057,596.03	39° 59' 39.807 N	109° 30' 37.927 W
1,700.00	9.11	358.43	1,686.30	184.04	-0.51	14,527,503.27	2,057,595.33	39° 59' 39.964 N	109° 30' 37.933 W
1,800.00	9.11	358.43	1,785.04	199.87	-0.95	14,527,519.08	2,057,594.63	39° 59' 40.120 N	109° 30' 37.938 W
1,900.00	9.11	358.43	1,883.78	215.69	-1.38	14,527,534.90	2,057,593.93	39° 59' 40.276 N	109° 30' 37.944 W
2,000.00	9.11	358.43	1,982.52	231.52	-1.82	14,527,550.71	2,057,593.23	39° 59' 40.433 N	109° 30' 37.949 W
2,100.00	9.11	358.43	2,081.26	247.34	-2.25	14,527,566.53	2,057,592.54	39° 59' 40.589 N	109° 30' 37.955 W
2,200.00	9.11	358.43	2,180.00	263.17	-2.68	14,527,582.34	2,057,591.84	39° 59' 40.746 N	109° 30' 37.960 W
2,300.00	9.11	358.43	2,278.74	278.99	-3.12	14,527,598.16	2,057,591.14	39° 59' 40.902 N	109° 30' 37.966 W
2,400.00	9.11	358.43	2,377.48	294.81	-3.55	14,527,613.97	2,057,590.44	39° 59' 41.058 N	109° 30' 37.972 W
2,500.00	9.11	358.43	2,476.22	310.64	-3.98	14,527,629.79	2,057,589.74	39° 59' 41.215 N	109° 30' 37.977 W
2,600.00	9.11	358.43	2,574.96	326.46	-4.42	14,527,645.60	2,057,589.04	39° 59' 41.371 N	109° 30' 37.983 W
2,627.39	9.11	358.43	2,602.00	330.80	-4.54	14,527,649.94	2,057,588.85	39° 59' 41.414 N	109° 30' 37.984 W
8 5/8"									
2,700.00	9.11	358.43	2,673.69	342.29	-4.85	14,527,661.42	2,057,588.35	39° 59' 41.528 N	109° 30' 37.988 W
2,773.73	9.11	358.43	2,746.49	353.96	-5.17	14,527,673.08	2,057,587.83	39° 59' 41.643 N	109° 30' 37.992 W
Start Drop -2.00									
2,800.00	8.58	358.43	2,772.45	357.99	-5.28	14,527,677.12	2,057,587.65	39° 59' 41.683 N	109° 30' 37.994 W
2,900.00	6.58	358.43	2,871.57	371.18	-5.64	14,527,690.30	2,057,587.07	39° 59' 41.813 N	109° 30' 37.999 W
3,000.00	4.58	358.43	2,971.09	380.91	-5.91	14,527,700.02	2,057,586.64	39° 59' 41.909 N	109° 30' 38.002 W
3,100.00	2.58	358.43	3,070.89	387.16	-6.08	14,527,706.26	2,057,586.37	39° 59' 41.971 N	109° 30' 38.004 W
3,200.00	0.58	358.43	3,170.85	389.92	-6.16	14,527,709.02	2,057,586.24	39° 59' 41.999 N	109° 30' 38.005 W
3,229.15	0.00	0.00	3,200.00	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
Start 7380.00 hold at 3229.15 MD									
3,300.00	0.00	0.00	3,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
3,400.00	0.00	0.00	3,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
3,500.00	0.00	0.00	3,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
3,600.00	0.00	0.00	3,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
3,700.00	0.00	0.00	3,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
3,800.00	0.00	0.00	3,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,900.00	0.00	0.00	3,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,000.00	0.00	0.00	3,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,100.00	0.00	0.00	4,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,200.00	0.00	0.00	4,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,300.00	0.00	0.00	4,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,400.00	0.00	0.00	4,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,500.00	0.00	0.00	4,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,600.00	0.00	0.00	4,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,700.00	0.00	0.00	4,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,767.15	0.00	0.00	4,738.00	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
WASATCH									
4,800.00	0.00	0.00	4,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
4,900.00	0.00	0.00	4,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,000.00	0.00	0.00	4,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,100.00	0.00	0.00	5,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,200.00	0.00	0.00	5,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,300.00	0.00	0.00	5,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,400.00	0.00	0.00	5,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,500.00	0.00	0.00	5,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,600.00	0.00	0.00	5,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,700.00	0.00	0.00	5,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,800.00	0.00	0.00	5,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
5,900.00	0.00	0.00	5,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,000.00	0.00	0.00	5,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,100.00	0.00	0.00	6,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,200.00	0.00	0.00	6,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,300.00	0.00	0.00	6,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,400.00	0.00	0.00	6,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,500.00	0.00	0.00	6,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,600.00	0.00	0.00	6,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,700.00	0.00	0.00	6,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,800.00	0.00	0.00	6,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
6,900.00	0.00	0.00	6,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,000.00	0.00	0.00	6,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,100.00	0.00	0.00	7,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,200.00	0.00	0.00	7,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,300.00	0.00	0.00	7,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,400.00	0.00	0.00	7,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,494.15	0.00	0.00	7,465.00	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
MESAVEREDE									
7,500.00	0.00	0.00	7,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,600.00	0.00	0.00	7,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,700.00	0.00	0.00	7,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,800.00	0.00	0.00	7,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
7,900.00	0.00	0.00	7,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,000.00	0.00	0.00	7,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,100.00	0.00	0.00	8,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,200.00	0.00	0.00	8,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,300.00	0.00	0.00	8,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,400.00	0.00	0.00	8,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,500.00	0.00	0.00	8,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,600.00	0.00	0.00	8,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,700.00	0.00	0.00	8,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,800.00	0.00	0.00	8,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
8,900.00	0.00	0.00	8,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,000.00	0.00	0.00	8,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,100.00	0.00	0.00	9,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,200.00	0.00	0.00	9,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,300.00	0.00	0.00	9,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,400.00	0.00	0.00	9,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,500.00	0.00	0.00	9,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,600.00	0.00	0.00	9,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,700.00	0.00	0.00	9,670.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,800.00	0.00	0.00	9,770.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
9,900.00	0.00	0.00	9,870.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,000.00	0.00	0.00	9,970.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,100.00	0.00	0.00	10,070.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,200.00	0.00	0.00	10,170.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,300.00	0.00	0.00	10,270.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,400.00	0.00	0.00	10,370.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,500.00	0.00	0.00	10,470.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,600.00	0.00	0.00	10,570.85	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
10,609.15	0.00	0.00	10,580.00	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
TD at 10609.15 - PBHL_NBU 921-35H1CS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_NBU 921-35H1C	0.00	0.00	10,580.00	390.07	-6.16	14,527,709.17	2,057,586.24	39° 59' 42.000 N	109° 30' 38.005 W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,627.39	2,602.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,460.68	1,450.00	GREEN RIVER				
4,767.15	4,738.00	WASATCH				
7,494.15	7,465.00	MESAVEREDE				

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
450.00	449.93	3.69	1.34	Start DLS 2.00 TFO -31.40
770.67	768.69	36.98	3.52	Start 2003.06 hold at 770.67 MD
2,773.73	2,746.49	353.96	-5.17	Start Drop -2.00
3,229.15	3,200.00	390.07	-6.16	Start 7380.00 hold at 3229.15 MD
10,609.15	10,580.00	390.07	-6.16	TD at 10609.15

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_NBU 921-35H1CS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5098' & RKB 14' @ 5112.00ft (ASSUMED)
Site:	NBU 921-35H PAD	North Reference:	True
Well:	P_NBU 921-35H1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_NBU 921-35H1CS		
Design:	PLAN #1 11-8-10 RHS		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
450.00	449.93	3.69	1.34	Start DLS 2.00 TFO -31.40
770.67	768.69	36.98	3.52	Start 2003.06 hold at 770.67 MD
2,773.73	2,746.49	353.96	-5.17	Start Drop -2.00
3,229.15	3,200.00	390.07	-6.16	Start 7380.00 hold at 3229.15 MD
10,609.15	10,580.00	390.07	-6.16	TD at 10609.15

NBU 921-35H1BS

Surface: 2,143' FNL 486' FEL (SE/4NE/4)

BHL: 1,411' FNL 494' FEL (SE/4NE/4)

NBU 921-35H1CS

Surface: 2,133' FNL 490' FEL (SE/4NE/4)

BHL: 1,743' FNL 495' FEL (SE/4NE/4)

NBU 921-35H4BS

Surface: 2,124' FNL 493' FEL (SE/4NE/4)

BHL: 2,075' FNL 495' FEL (SE/4NE/4)

NBU 921-35H4CS

Surface: 2,152' FNL 483' FEL (SE/4NE/4)

BHL: 2,407' FNL 495' FEL (SE/4NE/4)

Pad: NBU 921-35H

Section 35 T9S R21E

Mineral Lease: ML 22582

Uintah County, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP

MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

A. Existing Roads:

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each

other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

No new access road is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the CIGE 239. This well location is a producing vertical well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of November 11, 2010.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 1,610'$ and the individual segments are broken up as follows:

$\pm 490'$ (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.

$\pm 1,120'$ (0.2 miles) –New 6" buried gas pipeline from the edge of pad to the NBU 921-35G pad intersection.

The total liquid gathering pipeline distance from the separator to the tie in point is $\pm 1,610'$ and the individual segments are broken up as follows:

- $\pm 490'$ (0.1 miles) –New 6” buried liquid pipeline from the separator to the edge of the pad.
- $\pm 1,120'$ (0.2 miles) –New 6” buried liquid pipeline from the edge of pad to the NBU 921-35G pad intersection.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods of Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

- RNI in Sec. 5 T9S R22E
- Ace Oilfield in Sec. 2 T6S R20E
- MC&MC in Sec. 12 T6S R19E
- Pipeline Facility in Sec. 36 T9S R20E
- Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
- Bonanza Evaporation Pond in Sec. 2 T10S R23E
- Ouray #1 SWD in Sec. 1 T9S R21E
- NBU 159 SWD in Sec. 35 T9S R21E
- CIGE 112D SWD in Sec. 19 T9S R21E
- CIGE 114 SWD in Sec. 34 T9S R21E
- NBU 921-34K SWD in Sec. 34 T9S R21E
- NBU 921-33F SWD in Sec. 33 T9S R21E
- NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker, The liner

will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

Final Reclamation

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-

vegetation. The site specific seed mix will be provided by SITLA.

J. Surface/Mineral Ownership:

SITLA

675 East 500 South, Suite 500

Salt Lake City, UT 84102

K. Other Information:

None

M. Lessee's or Operators' Representative & Certification:

Danielle Piernot
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.


Danielle Piernot

November 19, 2010
Date



Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
DENVER, CO 80217-3779

October 27, 2010

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 921-35H1CS
T9S-R21E
Section 35: SENE (Surf), SENE (Bottom)
Surface: 2133' FNL, 490' FEL
Bottom Hole: 1743' FNL, 495' FEL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-35H1CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

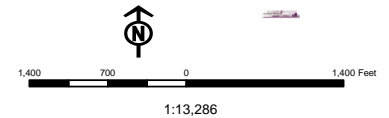
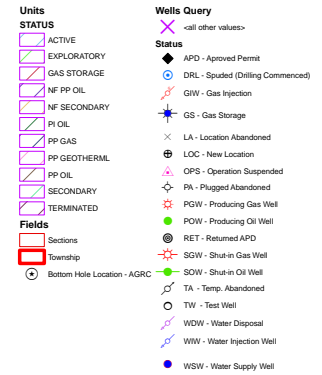
KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads 'Joe Matney'.

Joe Matney
Sr. Staff Landman

API Number: 4304751366
Well Name: NBU 921-35H1CS
Township 09.0 S Range 21.0 E Section 35
Meridian: SLBM
Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

December 1, 2010

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2010 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2010 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

NBU 921-35F2 Pad

43-047-51355	NBU 921-35F1BS	Sec 35 T09S R21E 1684 FNL 1709 FWL
	BHL	Sec 35 T09S R21E 1531 FNL 2146 FWL

NBU 921-35F4 PAD

43-047-51356	NBU 921-35F4BS	Sec 35 T09S R21E 2473 FNL 2358 FWL
	BHL	Sec 35 T09S R21E 2210 FNL 2158 FWL

43-047-51357	NBU 921-35F4CS	Sec 35 T09S R21E 2483 FNL 2358 FWL
	BHL	Sec 35 T09S R21E 2567 FNL 2159 FWL

43-047-51358	NBU 921-35K1BS	Sec 35 T09S R21E 2493 FNL 2358 FWL
	BHL	Sec 35 T09S R21E 2484 FSL 2161 FWL

43-047-51359	NBU 921-35K1CS	Sec 35 T09S R21E 2503 FNL 2357 FWL
	BHL	Sec 35 T09S R21E 2163 FSL 2155 FWL

NBU 921-35G Pad

43-047-51360	NBU 921-35G1BS	Sec 35 T09S R21E 2053 FNL 1633 FEL
	BHL	Sec 35 T09S R21E 1583 FNL 1819 FEL

43-047-51361	NBU 921-35G1CS	Sec 35 T09S R21E 2053 FNL 1653 FEL
	BHL	Sec 35 T09S R21E 1916 FNL 1820 FEL

43-047-51362	NBU 921-35G4BS	Sec 35 T09S R21E 2053 FNL 1643 FEL
	BHL	Sec 35 T09S R21E 2250 FNL 1822 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51363	NBU 921-35G4CS	Sec 35 T09S R21E 2053 FNL 1623 FEL
	BHL	Sec 35 T09S R21E 2583 FNL 1823 FEL
43-047-51364	NBU 921-35J1BS	Sec 35 T09S R21E 2053 FNL 1613 FEL
	BHL	Sec 35 T09S R21E 2419 FSL 1824 FEL
NBU 921-35H PAD		
43-047-51365	NBU 921-35H1BS	Sec 35 T09S R21E 2143 FNL 0486 FEL
	BHL	Sec 35 T09S R21E 1411 FNL 0494 FEL
43-047-51366	NBU 921-35H1CS	Sec 35 T09S R21E 2133 FNL 0490 FEL
	BHL	Sec 35 T09S R21E 1743 FNL 0495 FEL
43-047-51367	NBU 921-35H4BS	Sec 35 T09S R21E 2124 FNL 0493 FEL
	BHL	Sec 35 T09S R21E 2075 FNL 0495 FEL
43-047-51368	NBU 921-35H4CS	Sec 35 T09S R21E 2152 FNL 0483 FEL
	BHL	Sec 35 T09S R21E 2407 FNL 0495 FEL
NBU 921-35I PAD		
43-047-51369	NBU 921-35I1BS	Sec 35 T09S R21E 2106 FSL 0794 FEL
	BHL	Sec 35 T09S R21E 2572 FSL 0496 FEL
43-047-51370	NBU 921-35I1CS	Sec 35 T09S R21E 2098 FSL 0800 FEL
	BHL	Sec 35 T09S R21E 2240 FSL 0496 FEL
43-047-51371	NBU 921-35I4BS	Sec 35 T09S R21E 2090 FSL 0806 FEL
	BHL	Sec 35 T09S R21E 1908 FSL 0496 FEL
43-047-51372	NBU 921-35I4CS	Sec 35 T09S R21E 2082 FSL 0811 FEL
	BHL	Sec 35 T09S R21E 1577 FSL 0497 FEL
43-047-51373	NBU 921-35J1CS	Sec 35 T09S R21E 2074 FSL 0817 FEL
	BHL	Sec 35 T09S R21E 2086 FSL 1825 FEL
43-047-51374	NBU 921-35J4BS	Sec 35 T09S R21E 2066 FSL 0823 FEL
	BHL	Sec 35 T09S R21E 1752 FSL 1826 FEL
NBU 921-35K PAD		
43-047-51375	NBU 921-35K4BS	Sec 35 T09S R21E 1710 FSL 1409 FWL
	BHL	Sec 35 T09S R21E 1814 FSL 2165 FWL
43-047-51376	NBU 921-35K4CS	Sec 35 T09S R21E 1702 FSL 1403 FWL
	BHL	Sec 35 T09S R21E 1469 FSL 2163 FWL
43-047-51377	NBU 921-35N1BS	Sec 35 T09S R21E 1694 FSL 1397 FWL
	BHL	Sec 35 T09S R21E 1124 FSL 2161 FWL
43-047-51378	NBU 921-35N1CS	Sec 35 T09S R21E 1686 FSL 1392 FWL
	BHL	Sec 35 T09S R21E 0771 FSL 2162 FWL

API #	WELL NAME	LOCATION
NBU 921-35L PAD		
43-047-51379	NBU 921-35E4CS	Sec 35 T09S R21E 2016 FSL 0768 FWL
	BHL	Sec 35 T09S R21E 2343 FNL 0823 FWL
43-047-51386	NBU 921-35L1BS	Sec 35 T09S R21E 2013 FSL 0778 FWL
	BHL	Sec 35 T09S R21E 2658 FSL 0826 FWL
43-047-51389	NBU 921-35L1CS	Sec 35 T09S R21E 2009 FSL 0787 FWL
	BHL	Sec 35 T09S R21E 2255 FSL 0835 FWL
43-047-51390	NBU 921-35L4CS	Sec 35 T09S R21E 2005 FSL 0796 FWL
	BHL	Sec 35 T09S R21E 1470 FSL 0832 FWL
NBU 921-35P PAD		
43-047-51380	NBU 921-35P4CS	Sec 35 T09S R21E 0781 FSL 0557 FEL
	BHL	Sec 35 T09S R21E 0208 FSL 0489 FEL
43-047-51381	NBU 921-35P1CS	Sec 35 T09S R21E 0778 FSL 0547 FEL
	BHL	Sec 35 T09S R21E 0913 FSL 0497 FEL
43-047-51382	NBU 921-35P1BS	Sec 35 T09S R21E 0785 FSL 0566 FEL
	BHL	Sec 35 T09S R21E 1245 FSL 0497 FEL
NBU 921-35O PAD		
43-047-51383	NBU 921-35O4CS	Sec 35 T09S R21E 0360 FSL 1780 FEL
	BHL	Sec 35 T09S R21E 0026 FSL 1826 FEL
43-047-51384	NBU 921-35O4BS	Sec 35 T09S R21E 0370 FSL 1777 FEL
	BHL	Sec 35 T09S R21E 0336 FSL 1833 FEL
43-047-51385	NBU 921-35O1CS	Sec 35 T09S R21E 0398 FSL 1766 FEL
	BHL	Sec 35 T09S R21E 0674 FSL 1828 FEL
43-047-51387	NBU 921-35O1BS	Sec 35 T09S R21E 0407 FSL 1763 FEL
	BHL	Sec 35 T09S R21E 1059 FSL 1833 FEL
43-047-51388	NBU 921-35N4CS	Sec 35 T09S R21E 0379 FSL 1773 FEL
	BHL	Sec 35 T09S R21E 0051 FSL 2153 FWL
43-047-51395	NBU 921-35N4BS	Sec 35 T09S R21E 0388 FSL 1770 FEL
	BHL	Sec 35 T09S R21E 0410 FSL 2164 FWL
NBU 921-35M PAD		
43-047-51391	NBU 921-35M1BS	Sec 35 T09S R21E 0469 FSL 0526 FWL
	BHL	Sec 35 T09S R21E 1096 FSL 0830 FWL
43-047-51392	NBU 921-35M1CS	Sec 35 T09S R21E 0474 FSL 0534 FWL
	BHL	Sec 35 T09S R21E 0760 FSL 0830 FWL

API #	WELL NAME	LOCATION
43-047-51393	NBU 921-35M4BS	Sec 35 T09S R21E 0478 FSL 0543 FWL
	BHL	Sec 35 T09S R21E 0423 FSL 0831 FWL
43-047-51394	NBU 921-35M4CS	Sec 35 T09S R21E 0464 FSL 0517 FWL
	BHL	Sec 35 T09S R21E 0055 FSL 0834 FWL

This office has no objection to permitting the wells at this time.

Michael L. Coulthard

Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of
Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2010.12.01 10:03:00 -07'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:12-1-10

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 921-35H1CS 430475136			
String	Surf	Prod		
Casing Size(")	9.625	4.500		
Setting Depth (TVD)	2575	10580		
Previous Shoe Setting Depth (TVD)	40	2575		
Max Mud Weight (ppg)	8.3	13.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	10690		
Operators Max Anticipated Pressure (psi)	6982	12.7		

Calculations	Surf String	9.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1115	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	806	NO air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	549	NO OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	557	NO Reasonable depth in area
Required Casing/BOPE Test Pressure=		2464	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

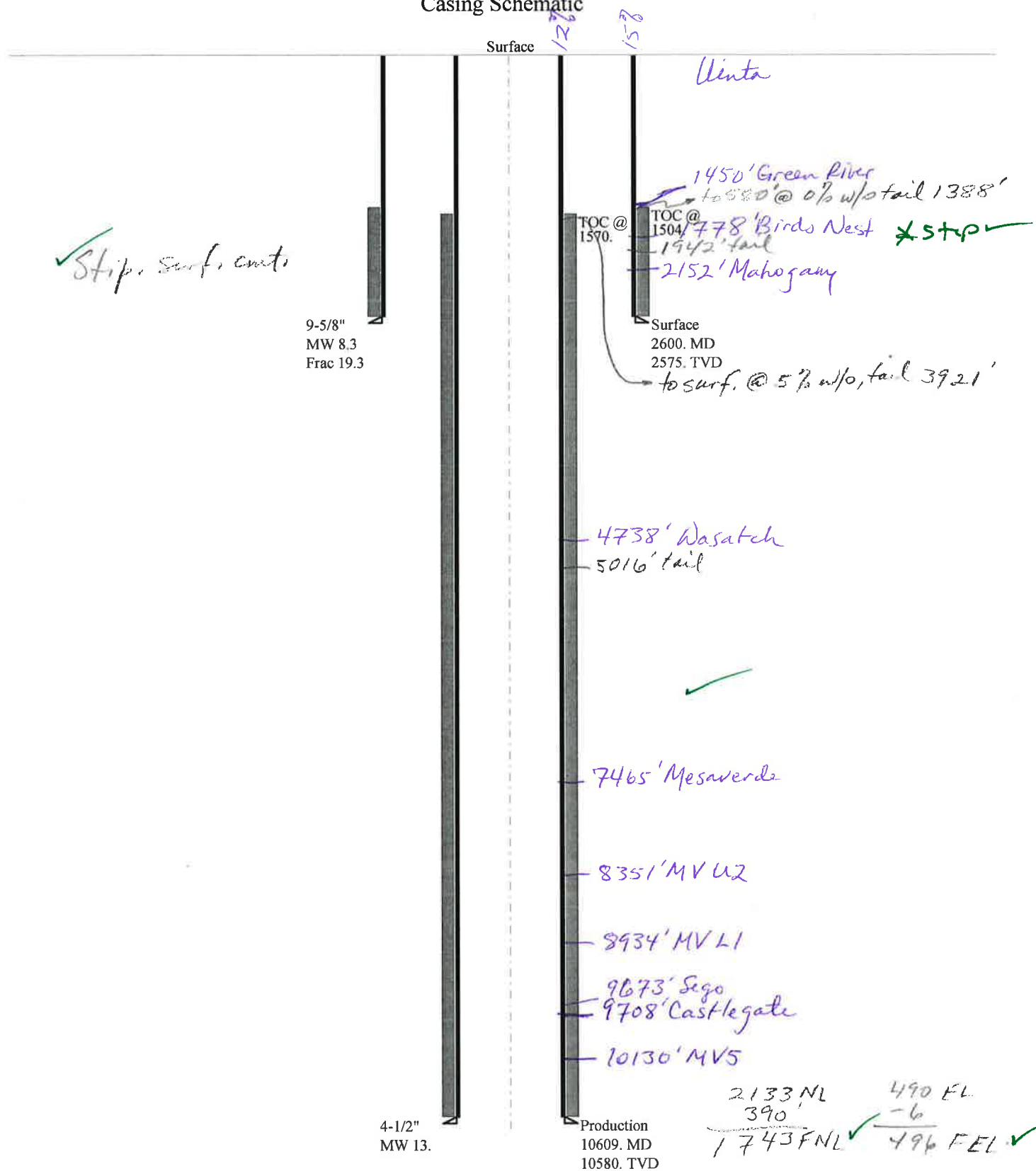
Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	7152	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5882	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4824	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5391	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2575	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

43047513660000 NBU 921-35H1CS

Casing Schematic



SE NE Sec 35-9S-21E

Well name:	43047513660000 NBU 921-35H1CS	
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.	
String type:	Surface	Project ID: 43-047-51366
Location:	UINTAH COUNTY	

Design parameters:**Collapse**

Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 110 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,504 ft

Burst

Max anticipated surface pressure: 2,288 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,597 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 2,279 ft

Directional Info - Build & Hold

Kick-off point 0 ft
Departure at shoe: 327 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 9.11 °

Re subsequent strings:

Next setting depth: 10,580 ft
Next mud weight: 13.000 ppg
Next setting BHP: 7,145 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,600 ft
Injection pressure: 2,600 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2600	9.625	36.00	J-55	LT&C	2575	2600	8.796	21261

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1114	2020	1.813	2597	3520	1.36	92.7	453	4.89 J

Prepared by: Helen Sadik-Macdonald
Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: December 13, 2010
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2575 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	43047513660000 NBU 921-35H1CS	
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.	
String type:	Production	Project ID: 43-047-51366
Location:	UINTAH COUNTY	

Design parameters:**Collapse**

Mud weight: 13.000 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 222 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,570 ft

Burst

Max anticipated surface pressure: 4,817 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 7,145 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Directional Info - Build & Hold

Kick-off point 0 ft
Departure at shoe: 390 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Tension is based on air weight.
Neutral point: 8,553 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	10609	4.5	11.60	HCP-110	Buttress LTC	10580	10609	3.875	54685
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	7145	8650	1.211	7145	10690	1.50	122.7	367.2 279	2.00-B 2.27

Prepared by: Helen Sadik-Macdonald
Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: December 13, 2010
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 10580 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

From: Jim Davis
To: Bonner, Ed; Hill, Brad; Mason, Diana
CC: Curry, Kristine; Danielle Piernot; Garrison, LaVonne; Hayden, Martha;...
Date: 12/22/2010 5:49 AM
Subject: Kerr McGee APD approvals in 9S 21E Sec 35
Attachments: KMG approvals 921-35 on 12.22.2010.xls

The following wells have been approved by SITLA under the following arch and paleo stipulations. This is a long list, so I'm attaching a spreadsheet with the same information.

A note on arch and paleo stipulations: Wells that have an arch note "non-significant site" do not need to be avoided or mitigated. Only those that say "needs to be avoided".

The paleo reports make recommendations for "spot paleo monitoring" or "full paleo monitoring". It is my understanding that Kerr McGee is taking these stipulations and doing full monitoring in either case, in an abundance of caution.

-Jim Davis

Well Name	API	Paleo Stipulations	Arch Stipulations
Kerr-McGee's NBU 921-35A1BS (U-07-MQ-1437b,i,p,s)	API #4304751339		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35A4CS (U-07-MQ-1437b,i,p,s)	API #4304751340		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B1BS (U-07-MQ-1437b,i,p,s)	API #4304751341		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B4BS (U-07-MQ-1437b,i,p,s)	API #4304751342		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B1CS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)	API #4304751343		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B4CS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)	API #4304751344		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35C1BS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)	API #4304751345		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35C4BS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)	API #4304751346		IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35C1CS (U-07-MQ-1437b,i,p,s)	API #4304751347		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35D1BS (U-07-MQ-1437b,i,p,s)	API #4304751348		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35D1CS (U-07-MQ-1437b,i,p,s)	API #4304751349		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35D4CS (U-07-MQ-1437b,i,p,s)	API #4304751350		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35C4CS (U-07-MQ-1437b,i,p,s)	API #4304751351		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35E1CS (U-07-MQ-1437b,i,p,s)	API #4304751352		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35E2AS (U-07-MQ-1437b,i,p,s)	API #4304751353		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35F1BS (U-07-MQ-1437b,i,p,s)	API #4304751355		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35F4BS (U-07-MQ-1437b,i,p,s)	API #4304751356		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35F4CS (U-07-MQ-1437b,i,p,s)	API #4304751357		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)
Kerr-McGee's NBU 921-35K1BS	API #4304751358		IPC 10-97 Full Paleo Monitoring (U-07-MQ-1437b,i,p,s)

MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35K1CS	API #4304751359	IPC 10-97 Full Paleo Monitoring	(U-07-
MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35G1BS	API #4304751360	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)			
Kerr-McGee's NBU 921-35G1CS	API #4304751361	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)			
Kerr-McGee's NBU 921-35G4BS	API #4304751362	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)			
Kerr-McGee's NBU 921-35G4CS	API #4304751363	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)			
Kerr-McGee's NBU 921-35J1S	API #4304751364	IPC 10-98 Spot Paleo Monitoring	(U-07-
MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)			
Kerr-McGee's NBU 921-35H1BS	API #4304751365	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35H1CS	API #4304751366	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35H4BS	API #4304751367	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35H4CS	API #4304751368	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35I1BS	API #4304751369	IPC 10-100 Full Paleo Monitoring	(U-07-
MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35I1CS	API #4304751370	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35I4BS	API #4304751371	IPC 10-100 Full Paleo Monitoring	(U-07-
MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35I4CS	API #4304751372	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35J1CS	API #4304751373	IPC 10-98 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35J4BS	API #4304751374	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35K4BS	API #4304751375	IPC 10-99 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35K4CS	API #4304751376	IPC 10-99 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35N1BS	API #4304751377	IPC 10-99 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35N1CS	API #4304751378	IPC 10-99 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35E4CS	API #4304751379	IPC 10-99 Spot Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35P4CS	API #4304751380	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35P1CS	API #4304751381	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35P1BS	API #4304751382	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s)			
Kerr-McGee's NBU 921-35O4CS	API #4304751383	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)			
Kerr-McGee's NBU 921-35O4BS	API #4304751384	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)			
Kerr-McGee's NBU 921-35O1CS	API #4304751385	IPC 10-100 Full Paleo Monitoring	
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)			
Kerr-McGee's NBU 921-35L1BS	API #4304751386	IPC 10-99 Spot Paleo Monitoring	

(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35O1BS	API #4304751387	IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)		
Kerr-McGee's NBU 921-35N4CS	API #4304751388	IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)		
Kerr-McGee's NBU 921-35L1CS	API #4304751389	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35L4CS	API #4304751390	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M1BS	API #4304751391	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M1CS	API #4304751392	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M4BS	API #4304751393	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M4CS	API #4304751394	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35N4BS	API #4304751395	IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)		

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
Well Name	NBU 921-35H1CS				
API Number	43047513660000	APD No	3199	Field/Unit	NATURAL BUTTES
Location: 1/4,1/4	SENE	Sec	35	Tw	9.0S
		Rng	21.0E	2133	FNL 490 FEL
GPS Coord (UTM)	627148 4427929	Surface Owner			

Participants

See other comments:

Regional/Local Setting & Topography

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.6 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to the site. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35H pad will be created by significantly enlarging the existing pad of the CIGE 239 gas well. It will be enlarged in all directions. Four gas wells, to be directionally drilled, will be added. They are the NBU 921-35H4BS, NBU 921-35H1CS, NBU 921-35H1BS and MBU 921-35H4CS. The site is on the west slope of a hill in moderately gentle terrain. A swale exists to the northeast of the location. A drainage to the northwest is spilling a minor amount of sediment onto the location but a diversion is not warranted. A major tributary of Sand Wash is about 3/10 mile to the east of the site and the White River about 3 mile down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA.

Surface Use Plan**Current Surface Use**

Grazing
Wildlife Habitat
Existing Well Pad

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	Width 352 Length 455	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?**Environmental Parameters**

Affected Floodplains and/or Wetlands N

Flora / Fauna

Vegetation is a poor desert shrub type, which includes rabbit brush, Indian ricegrass, black sage, stipa commata, greasewood, broom snakeweed, shadscale and halogeton.

Antelope, sheep during the winter, rabbits, coyotes, and small mammals, birds and raptors.

Soil Type and Characteristics

Surface soils are a shallow rocky sandy loam.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Drainage Diversion Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y **Paleo Potential Observed?** N **Cultural Survey Run?** Y **Cultural Resources?**

Reserve Pit

Site-Specific Factors

Site Ranking

Distance to Groundwater (feet)	100 to 200	5
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)		20
Native Soil Type	Mod permeability	10
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)		0
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
Final Score	40	1 Sensitivity Level

Characteristics / Requirements

The proposed reserve pit is 120' x 260' x 12' deep located in a cut on the southwest corner of the location. Kerr McGee plans a 30-mil liner with a double felt sub-liner.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

Other Observations / Comments

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Lovell Young, Grizz Oleen, Charles Chase, Colby Sutton, Doyle Holmes, Claudia Sass, (Kerr McGee), Mitch Batty, John Slaugh, (Timberline Engineering and Land Surveying), Jim Davis (SITLA) and Ben Williams, (UDWR).

Floyd Bartlett
Evaluator

11/30/2010
Date / Time

Application for Permit to Drill

Statement of Basis

12/27/2010

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
3199	43047513660000	LOCKED	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		Surface Owner-APD		
Well Name	NBU 921-35H1CS		Unit	NATURAL BUTTES	
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	SENE 35 9S 21E S 2133 FNL 490 FEL GPS Coord (UTM) 627162E 4427930N				

Geologic Statement of Basis

Kerr McGee proposes to set 2,600' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,400'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 35. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill
APD Evaluator

12/20/2010
Date / Time

Surface Statement of Basis

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.6 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to the site. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35H pad will be created by significantly enlarging the existing pad of the CIGE 239 gas well. It will be enlarged in all directions. Four gas wells, to be directionally drilled, will be added. They are the NBU 921-35H4BS, NBU 921-35H1CS, NBU 921-35H1BS and MBU 921-35H4CS. The site is on the west slope of a hill in moderately gentle terrain. A swale exists to the northeast of the location. A drainage to the northwest is spilling a minor amount of sediment onto the location but a diversion is not warranted. A major tributary of Sand Wash is about 3/10 mile to the east of the site and the White River about 3 mile down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location excepted as covered above. SITLA provided a seed mix to be used when reclaiming the site.

Ben Williams represented the Utah Division of Wildlife Resources. Mr. Williams stated the area is classified as crucial yearlong antelope habitat but recommended no restrictions for this species. No other wildlife will be significantly affected.

Floyd Bartlett
Onsite Evaluator

11/30/2010
Date / Time

**Application for Permit to Drill
Statement of Basis**

12/27/2010

Utah Division of Oil, Gas and Mining

Page 2

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

WORKSHEET

APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 11/23/2010

WELL NAME: NBU 921-35H1CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

CONTACT: Danielle Piernot

API NO. ASSIGNED: 43047513660000

PHONE NUMBER: 720 929-6156

PROPOSED LOCATION: SENE 35 090S 210E

Permit Tech Review: ☒

SURFACE: 2133 FNL 0490 FEL

Engineering Review: ☒

BOTTOM: 1743 FNL 0495 FEL

Geology Review: ☒

COUNTY: UINTAH

LATITUDE: 39.99388

LONGITUDE: -109.51048

UTM SURF EASTINGS: 627162.00

NORTHINGS: 4427930.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22582

SURFACE OWNER: 3 - State

PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ☒ **PLAT**
- ☒ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ☒ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☒ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☒ **Intent to Commingle**

Commingle Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**
- Unit:** NATURAL BUTTES
- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☒ **Drilling Unit**
- Board Cause No:** Cause 173-14
- Effective Date:** 12/2/1999
- Siting:** Suspends General Siting
- ☒ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations: 3 - Commingle - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmadonald



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: NBU 921-35H1CS
API Well Number: 43047513660000
Lease Number: ML 22582
Surface Owner: STATE
Approval Date: 12/27/2010

Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingling:

In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
801-231-8956 - after office hours

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:



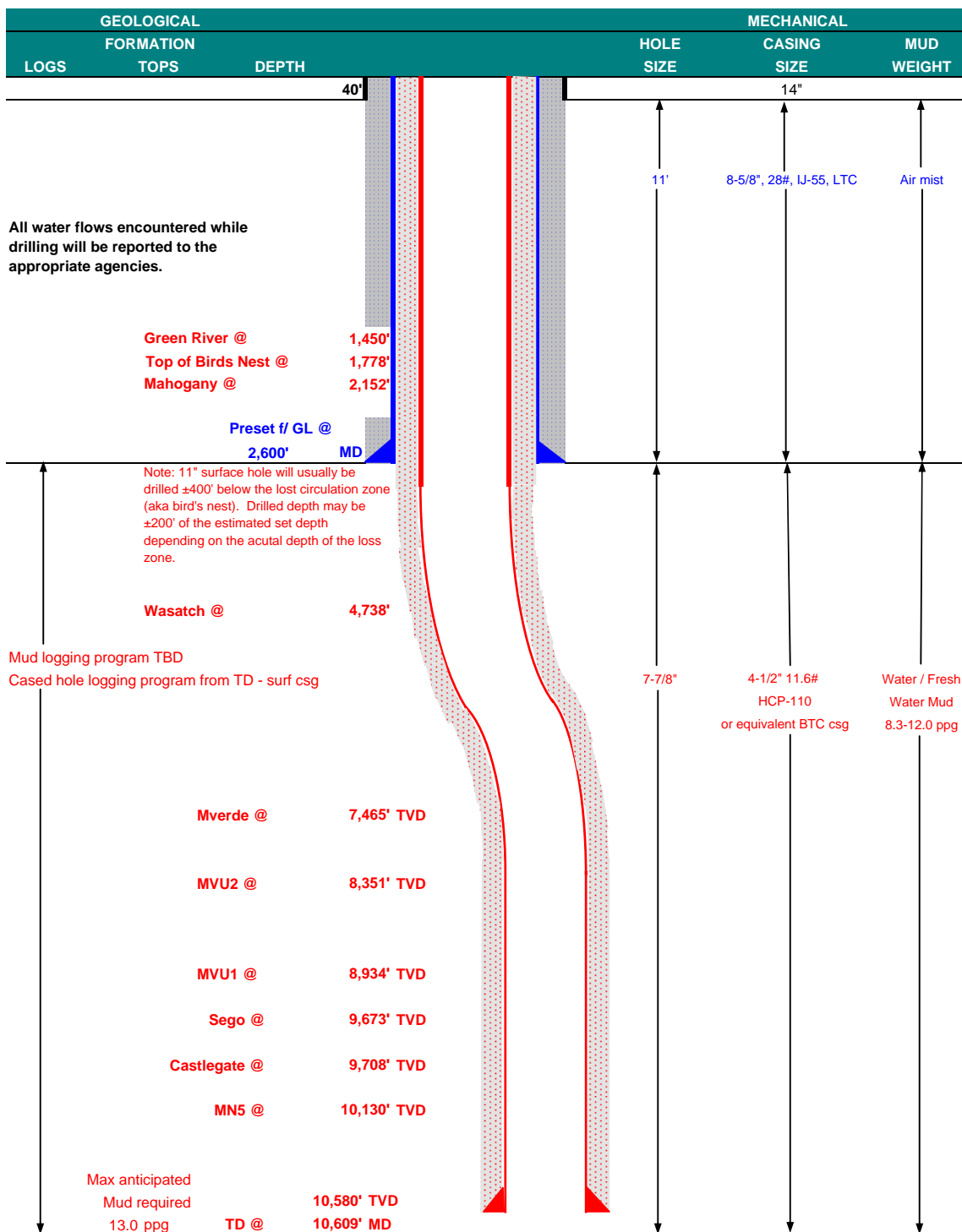
For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
TYPE OF SUBMISSION	TYPE OF ACTION	
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 3/31/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </div> <div style="width: 33%;"> <input checked="" type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the surface casing size FROM: 9-5/8" TO: 8-5/8" and the surface hole size FROM 12-1/4" TO: 11". Please see the attached for additional details. Please contact the undersigned with any questions and/or comments. Thank you.		
NAME (PLEASE PRINT) Danielle Piernot		PHONE NUMBER 720 929-6156
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 3/30/2011		FOR RECORD ONLY



KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	March 30, 2011		
WELL NAME	NBU 921-35H1CS					TD	10,580'	TVD	10,609' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5,098'
SURFACE LOCATION	SENE	2133 FNL	490 FEL	Sec 35	T 9S	R 21E			
	Latitude:	39.993929	Longitude:	-109.510535			NAD 27		
BTM HOLE LOCATION	SENE	1743 FNL	495 FEL	Sec 35	T 9S	R 21E			
	Latitude:	39.995	Longitude:	-109.510557			NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.								





KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

							DESIGN FACTORS		
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'							
							3,390	1,880	348,000
SURFACE	8-5/8"	0	to 2,600	28.00	IJ-55	LTC	2.08	1.55	4.73
							10,690	8,650	367,000
PRODUCTION	4-1/2"	0	to 10,609	11.60	HCP-110	BTC	1.19	1.21	3.72

Surface Casing:

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoys.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoys.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
			+ 0.25 pps flocele				
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2							
	LEAD	2,100'	65/35 Poz + 6% Gel + 10 pps gilsonite	190	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,229'	Premium Lite II +0.25 pps	310	10%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel	1,230	10%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

Nick Spence / Emile Goodwin

DATE:

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

DATE:

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 8/17/2011	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CMT W/ 28 SX READY MIX. SPUD WELL LOCATION ON AUGUST 17, 2011 AT 14:30 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY		
NAME (PLEASE PRINT) Andy Lytle		PHONE NUMBER 720 929-6100
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 8/18/2011		

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
Submitted By SHEILA WOPSOCK Phone Number 435.781.7024
Well Name/Number NBU 921-35H1CS
Qtr/Qtr SENE Section 35 Township 9S Range 21E
Lease Serial Number ML-22582
API Number 4304751366

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 08/17/2011 1200 HRS AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing
☐ Intermediate Casing
☐ Production Casing
☐ Liner
☐ Other

RECEIVED

AUG 16 2011

DIV. OF OIL, GAS & MINING

Date/Time 09/08/2011 0800 HRS AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT
LOVEL YOUNG AT 435.781.7051 FOR MORE

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Address: P.O. Box 173779
city DENVER
state CO zip 80217

Operator Account Number: N 2995

Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751368	NBU 921-35H4CS		SENE	35	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<u>B</u>	99999	<u>2900</u>	8/17/2011			<u>8/29/11</u>	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 8/17/2011 AT 10:30 HRS. <u>BHL = SENE</u>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751365	NBU 921-35H1BS		SENE	35	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<u>B</u>	99999	<u>2900</u>	8/17/2011			<u>8/29/11</u>	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 8/17/2011 AT 12:30 HRS. <u>BHL = SENE</u>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751366	NBU 921-35H1CS		SENE	35	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<u>B</u>	99999	<u>2900</u>	8/17/2011			<u>8/29/11</u>	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 8/17/2011 AT 14:30 HRS. <u>BHL = SENE</u>							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

RECEIVED
AUG 22 2011

ANDY LYTLE

Name (Please Print)

Signature

REGULATORY ANALYST

Title

8/22/2011

Date

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9			
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3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000			
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TYPE OF SUBMISSION	TYPE OF ACTION				
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/4/2011	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON SEPT. 1, 2011. DRILLED SURFACE HOLE TO 2715'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.					
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY					
NAME (PLEASE PRINT) Andy Lytle		PHONE NUMBER 720 929-6100			
SIGNATURE N/A		TITLE Regulatory Analyst			
DATE 9/6/2011					

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000
PHONE NUMBER: 720 929-6515 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 11/7/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

 The operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT waiver, closed loop drilling option, and a production casing change. All other aspects of the previously approved drilling plan will not change. These proposals do not deviate from previously submitted and approved plans. Please see attachments. Thank you.

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 11/7/2011	

NBU 921-35H1CS

Drilling Program
1 of 7**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-35H1CS**

Surface: 2133 FNL / 490 FEL SENE

BHL: 1743 FNL / 495 FEL SENE

Section 35 T9S R21E

Unitah County, Utah
Mineral Lease: ST UT ML 22582**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,450'	
Birds Nest	1,778'	Water
Mahogany	2,152'	Water
Wasatch	4,738'	Gas
Mesaverde	7,465'	Gas
MVU2	8,351'	Gas
MVL1	8,934'	Gas
Sego	9,673'	Gas
Castlegate	9,708'	Gas
MN5	10,130'	Gas
TVD	10,580'	
TD	10,609'	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. Evaluation Program:

Please refer to the attached Drilling Program

7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 10580' TVD, approximately equals
6,983 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,703 psi (bottom hole pressure
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.

Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.



KERR-McGEE OIL & GAS ONSHORE LP
DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	November 7, 2011		
WELL NAME	NBU 921-35H1CS					TD	10,580'	TVD	10,609' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5,098'
SURFACE LOCATION	SENE	2133 FNL	490 FEL	Sec 35	T 9S	R 21E			
	Latitude:	39.993929	Longitude:	-109.510535	NAD 27				
BTM HOLE LOCATION	SENE	1743 FNL	495 FEL	Sec 35	T 9S	R 21E			
	Latitude:	39.995000	Longitude:	-109.510557	NAD 27				
OBJECTIVE ZONE(S)	BLACKHAWK								
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.								

[illegible]

NBU 921-35H4CS

Drilling Program
6 of 7

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,687	28.00	IJ-55	LTC	2.00	1.50	5.28	N/A
						10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.21		3.72
	4-1/2"	5,000 to 10,609'	11.60	HCP-110	LTC	1.19	1.21	5.35	

Surface Casing:

(Burst Assumptions: TD = 13.0 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2							
	LEAD	2,187'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	200	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,229'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	20%	11.00	3.38
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,510	35%	14.30	1.31

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

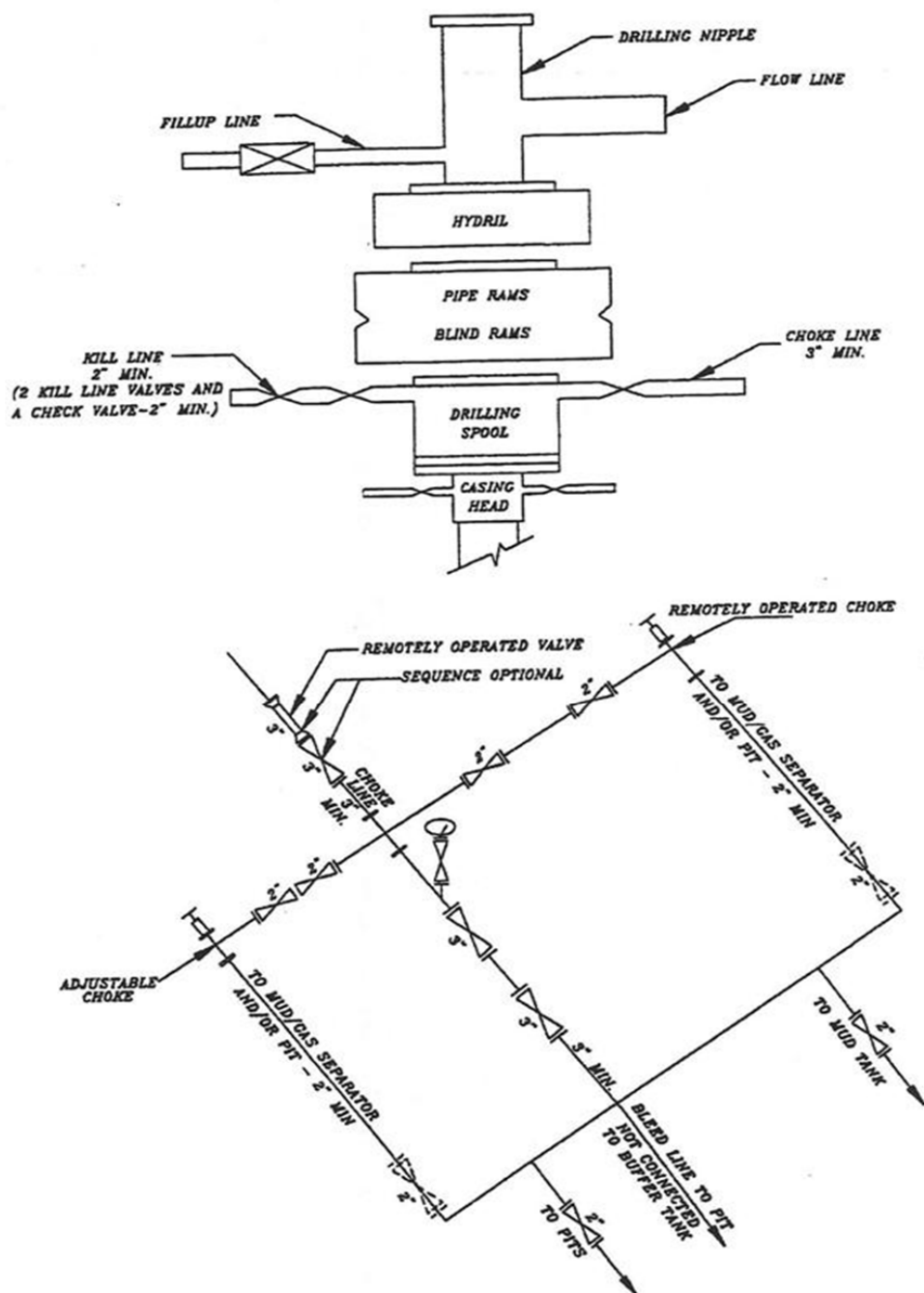
Nick Spence / Danny Showers / Chad Loesel

DATE:**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:
RECEIVED Nov. 07, 2011

NBU 921-35H4CS

Drilling Program
7 of 7**EXHIBIT A**
NBU 921-35H1CS**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000
PHONE NUMBER: 720 929-6514		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UTAH		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 1/19/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
 MIRU ROTARY RIG. FINISHED DRILLING FROM 2715' TO 10,792' ON JAN. 17, 2012. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 298 ON JAN. 19, 2012 @ 14:30 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

Accepted by the
 Utah Division of
 Oil, Gas and Mining
FOR RECORD ONLY
 January 24, 2012

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regularatory Analyst
SIGNATURE N/A	DATE 1/20/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000
PHONE NUMBER: 720 929-6514		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/12/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 03/12/2012 AT 1330 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY March 16, 2012		
NAME (PLEASE PRINT) Sheila Wopsock	PHONE NUMBER 435 781-7024	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 3/14/2012	

RECEIVED

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

MAR 12 2013

AMENDED REPORT ☒
(highlight changes)

FORM 8

DIV. OF OIL, GAS & MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER _____						5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582			
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ. LATS. <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER _____						6. IF INDIAN, ALLOTTEE OR TRIBE NAME			
2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.						7. UNIT or CA AGREEMENT NAME UTU63047A			
3. ADDRESS OF OPERATOR: P.O.BOX 173779 CITY DENVER STATE CO ZIP 80217						8. WELL NAME and NUMBER: NBU 921-35H1CS			
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: SENE 2133 FNL 490 FEL S35,T9S,R21E AT TOP PRODUCING INTERVAL REPORTED BELOW: SENE 1801 FNL 522 FEL S35,T9S,R21E AT TOTAL DEPTH: SENE 1831 FNL 543 FEL S35,T9S,R21E						9. API NUMBER: 4304751366			
14. DATE SPURRED: 8/17/2011						15. DATE T.D. REACHED: 1/17/2012		16. DATE COMPLETED: 3/12/2012	
18. TOTAL DEPTH: MD 10,792 TVD 10,749						19. PLUG BACK T.D.: MD 10,723 TVD 10,680		20. IF MULTIPLE COMPLETIONS, HOW MANY? *	
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) BHV-SD/DSN/ACTR-CBL/GR/COLLARS						23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)			
24. CASING AND LINER RECORD (Report all strings set in well)									
HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,709		600		0	
7 7/8"	4 1/2" P-110	11.6#	0	10,767		1,857		100	
25. TUBING RECORD									
SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	
2 3/8"	10,280								
26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) MESAVERDE	10,258	10,643			10,258 10,643	0.36	72	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.									
DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL								
10258-10643	PUMP 7,787 BBLs SLICK H2O & 180,251 LBS 30/50 OTTAWA SAND								
	3 STAGES								
29. ENCLOSED ATTACHMENTS:								30. WELL STATUS:	
<input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS <input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION <input type="checkbox"/> GEOLOGIC REPORT <input type="checkbox"/> CORE ANALYSIS <input type="checkbox"/> DST REPORT <input type="checkbox"/> OTHER: _____								<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PROD	

31. INITIAL PRODUCTION

INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED: 3/12/2012		TEST DATE: 3/13/2012		HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 482	WATER – BBL: 70	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,389	CSG. PRESS. 2,223	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 482	WATER – BBL: 70	INTERVAL STATUS: PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof; Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,473
				BIRD'S NEST	1,756
				MAHOGANY	2,324
				WASATCH	4,798
				MESAVERDE	7,555

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 4407'; LTC csg was run from 4407' to 10,767'. A DV tool was placed in the well from 4407 feet – 4410 feet. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) LINDSEY FRAZIER

TITLE REGULATORY ANALYST

SIGNATURE

DATE

3-8-13

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9			
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 22582			
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		9. FIELD and POOL or WILDCAT: NATURAL BUTTES			
TYPE OF SUBMISSION <input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 4/24/2014 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	TYPE OF ACTION <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 33%;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </td> <td style="vertical-align: top; width: 33%;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </td> <td style="vertical-align: top; width: 33%;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. The operator wishes to recomplete the referenced well in a different formation. Please see the attached procedure. Thank you.					
Approved by the Utah Division of Oil, Gas and Mining Date: April 30, 2014 By:					
NAME (PLEASE PRINT) Matthew P Wold		PHONE NUMBER 720 929-6993			
SIGNATURE N/A		TITLE Regulatory Analyst I			
DATE 4/24/2014					



Greater Natural Buttes Unit

**NBU 921-35H1CS
RE-COMPLETIONS PROCEDURE
NBU 921-35H PAD
FIELD ID: YELLOW WELL**

**DATE: 4/15/2014
AFE#:
API#: 4304751366
USER ID: SNT239 (Frac Invoices Only)**

**COMPLETIONS ENGINEER: Jamie Berghorn, Denver, CO
(720) 929-6230 (Office)
(303) 909-3417 (Cell)**

REMEMBER SAFETY FIRST!

Name: NBU 921-35H1CS**Location:** SW NE SE NE Sec 35 T9S R21E**LAT:** 39.993893 **LONG:** -109.511222 **COORDINATE:** NAD83 (*Surface Location*)**Uintah County, UT****ELEVATIONS:** 5,098' GL 5,124' KB *Frac Registry TVD: 10,749'***TOTAL DEPTH:** 10,792'**PBTD:** 10,722'**SURFACE CASING:**

8 5/8", 28# J-55 LTC @ 2,709'

PRODUCTION CASING:

4 1/2", 11.6#, P-110 DQX @ 4,410'

4 1/2", 11.6#, P-110 LTC @ 10,767'

Marker Joint **4,367-4,388 & 7,487-7,508 & 10,096-10,117'****TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl./ft)	(gal/ft)
2 3/8" 4.7# L-80 tbg	11,200	11,780	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
4 1/2" 11.6# P-110	10691	7580	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

TOPS:

1,563' Green River Top

1,756' Bird's Nest Top

2,324' Mahogany Top

4,798' Wasatch Top

7,543' Mesaverde Top

*Based on latest geological interpretation

BOTTOMS:

7,543' Wasatch Bottom

10,792' Mesaverde Bottom (TD)

T.O.C. @ 270'

**Based on latest interpretation of CBL

GENERAL NOTES:

- **Please note that:**
 - All stages on this procedure may or may not be completed due to low frac gradients, timing, or other possible reasons. Total stages completed can be found in the post-job-report.
 - CBP depth on this procedure is only to be used as a reference. This depth is subject to change as per field operations and the discretion of the wireline supervisor and field foreman.
- A minimum of **30** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Schlumberger's GRlog dated **2/17/2012**.
- **14** fracturing stages required for coverage.
- Hydraulic isolation estimated at **430'** based upon Schlumberger's CBL dated 2/17/2012.
- Procedure calls for **15** CBP's (**8000** psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- **Pump scale inhibitor at 0.5 gpt. Remember to pre-load the casing with scale inhibitor.**

- FR will be pumped at 0.3 gpt for this well. This concentration will be raised or lowered on the job at the discretion of the APC foreman per the well's treating pressure.
- 30/50 mesh Ottawa sand, **Slickwater frac.**
- Maximum surface pressure **6200 psi.**
- **If casing pressure test fails (pressure loss of 1.5% psi or more), retest for 15 minutes. If pressure loss of 1.5% more on second test, notify Denver engineers. Record in Openwells. MIRU with tubing and packer. Isolate leak by pressure testing above and below the packer. RIH and set appropriate casing leak remediation. Re-pressure test to 1000 and 3500 psi for 15 minutes each and to 6200 psi for 30 minutes (specific details on remediation should be documented in OpenWells).**
- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.
- Max Sand Concentration: Mesaverde 1 ppg; Wasatch 2 ppg;
- If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing – design will over flush stage by 5 bbls (from top perf)
- **TIGHT SPACING ON STAGE 2-6, 8-10**
- **If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work**

Existing Perforations:

<u>PERFORATIONS</u>							
<u>Formation</u>	<u>Zone</u>	<u>Top</u>	<u>Btm</u>	<u>spf</u>	<u>Shots</u>	<u>Date</u>	<u>Reason</u>
MESAVERDE	BLACKHAWK	10258	10260	4	8		PRODUCTION
MESAVERDE	BLACKHAWK	10276	10280	4	16		PRODUCTION
MESAVERDE	BLACKHAWK	10304	10306	3	6		PRODUCTION
MESAVERDE	BLACKHAWK	10314	10316	3	6		PRODUCTION
MESAVERDE	BLACKHAWK	10325	10326	3	3		PRODUCTION
MESAVERDE	BLACKHAWK	10352	10354	3	6		PRODUCTION
MESAVERDE	BLACKHAWK	10370	10371	3	3		PRODUCTION
MESAVERDE	BLACKHAWK	10422	10425	4	12		PRODUCTION
MESAVERDE	BLACKHAWK	10438	10439	4	4		PRODUCTION
MESAVERDE	BLACKHAWK	10641	10643	4	8		PRODUCTION

Relevant History:

02/13/2012: Originally completed in Mesaverde formation (3 stages) with ~ 327050 gallons of Slickwater, 180521 lbs of 30/50 TLC sand.

02/07/2013: Last slickline report:

Traveled to location rigged up ran jdc set down @ 10278 came out with a viper plunger ran jdc set down @ 10278 jarred on spring for a while came out with a

standard spring ran td set down @ 10710 came out ran scratcher out the tubing came out ran 1.9 broach set down @ 10278 came out tubing was clean there was a trace of scale on the spring plunger looks good drop and chase standard spring and viper plunger to btm came out rigged down traveled to the next location

03/12/2012: Tubing Currently Landed @~10280'

H2S History:

Monthly Production Data												
Location Name	WINS No. (well...)	Production Date	Gas (avg mcf...)	Water (avg bb...)	Oil (avg bbl/day)	Avg. BOE/day	LGR (bbl/Mmcf)	Max H2S Sep...	Separator H2...	Tank H2S (lbs)	Production Year	
NBU 921-35H1CS	E3156	3/31/2012	390.74	0.00	0.00	65.12	0.00				2012	
NBU 921-35H1CS	E3156	4/30/2012	365.57	206.10	16.90	79.83	615.48	0.00	0.00	0.00	2012	
NBU 921-35H1CS	E3156	5/31/2012	285.35	274.26	17.00	64.56	1020.69	0.00	0.00	0.00	2012	
NBU 921-35H1CS	E3156	6/30/2012	250.37	175.93	7.67	49.39	733.32				2012	
NBU 921-35H1CS	E3156	7/31/2012	224.77	173.32	8.16	45.62	807.41				2012	
NBU 921-35H1CS	E3156	8/31/2012	203.77	178.16	6.90	40.67	913.09				2012	
NBU 921-35H1CS	E3156	9/30/2012	169.23	172.00	4.97	33.17	1045.70	0.00	0.00	0.00	2012	
NBU 921-35H1CS	E3156	10/31/2012	151.97	147.03	5.13	30.46	1001.27				2012	
NBU 921-35H1CS	E3156	11/30/2012	140.23	129.20	2.67	26.04	940.34				2012	
NBU 921-35H1CS	E3156	12/31/2012	103.39	122.19	1.97	19.20	1200.94				2012	
NBU 921-35H1CS	E3156	1/31/2013	29.97	41.97	1.55	6.54	1452.10				2013	
NBU 921-35H1CS	E3156	2/28/2013	31.64	51.14	0.93	6.20	1645.60				2013	
NBU 921-35H1CS	E3156	3/31/2013	22.55	21.87	0.19	3.95	978.54				2013	
NBU 921-35H1CS	E3156	4/30/2013	16.87	0.00	0.00	2.81	0.00				2013	
NBU 921-35H1CS	E3156	5/31/2013	15.64	0.00	0.00	2.64	0.00				2013	
NBU 921-35H1CS	E3156	6/30/2013	18.30	0.00	0.00	3.05	0.00				2013	
NBU 921-35H1CS	E3156	7/31/2013	4.45	0.00	0.00	0.74	0.00				2013	
NBU 921-35H1CS	E3156	8/31/2013	2.16	0.00	0.00	0.36	0.00				2013	
NBU 921-35H1CS	E3156	9/30/2013	2.87	0.00	0.00	0.48	0.00				2013	
NBU 921-35H1CS	E3156	10/31/2013	0.61	0.00	0.00	0.10	0.00				2013	
NBU 921-35H1CS	E3156	11/30/2013	3.40	0.00	0.00	0.57	0.00	0.00	0.00	0.00	2013	
NBU 921-35H1CS	E3156	12/31/2013	0.81	0.00	0.00	0.13	0.00				2013	
NBU 921-35H1CS	E3156	1/31/2014	0.00	0.00	0.00	0.00	0.00				2014	
NBU 921-35H1CS	E3156	2/28/2014	0.36	0.00	0.00	0.06	0.00				2014	
NBU 921-35H1CS	E3156	3/31/2014	4.90	0.00	0.00	0.82	0.00				2014	

PROCEDURE: (If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work.)

1. MIRU. Control well with recycled water and biocide as required. ND WH, NU BOP's and test.
2. The tubing is below the proposed CBP depth. TOO H with 2-3/8", 4.7#, J-55 tubing. Visually inspect for scale and consider replacing if needed.
3. If tbg looks ok consider running a gauge ring to 9624' (50' below proposed CBP). Otherwise P/U a mill and C/O to 9624' (50' below proposed CBP).
4. Set 8000 psi CBP at ~ 9574'. ND BOPs and NU frac valves Test frac valves and casing to to **6200 psi** for 15 minutes; if pressure test fails contact Denver engineer and see notes above. **Lock OPEN the Braden head valve.** Flow from annulus will be visually monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
5. Pressure test frac lines to max surface pressure + 1000 psi for 15 minutes. Pressure loss should be less than 10% to be considered acceptable. Check and correct for existing leaks.
6. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	9410	9411	3	3
MESAVERDE	9422	9423	3	3

MESAVERDE 9446	9447	3	3
MESAVERDE 9455	9456	3	3
MESAVERDE 9485	9486	3	3
MESAVERDE 9511	9512	3	3
MESAVERDE 9533	9534	3	3
MESAVERDE 9543	9544	3	3

7. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~9410' and trickle 250gal 15%HCL w/ scale inhibitor in flush .

8. Set 8000 psi CBP at ~9311'. Perf the following 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	9096	9097	3	3
MESAVERDE	9109	9110	3	3
MESAVERDE	9202	9203	3	3
MESAVERDE	9211	9212	3	3
MESAVERDE	9222	9224	3	6
MESAVERDE	9279	9281	3	6

9. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~9096' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

10. Set 8000 psi CBP at ~9084'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	8912	8913	3	3
MESAVERDE	8930	8931	3	3
MESAVERDE	8949	8950	3	3
MESAVERDE	9021	9022	3	3
MESAVERDE	9037	9038	3	3
MESAVERDE	9056	9057	3	3
MESAVERDE	9063	9064	3	3
MESAVERDE	9070	9071	3	3

11. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~8912' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

12. Set 8000 psi CBP at ~8898'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	8778	8779	3	3
MESAVERDE	8797	8798	3	3
MESAVERDE	8807	8808	3	3
MESAVERDE	8814	8815	3	3
MESAVERDE	8821	8822	3	3
MESAVERDE	8850	8851	3	3
MESAVERDE	8866	8867	3	3
MESAVERDE	8874	8875	3	3

13. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 4 on attached listing. Under-displace to ~8778' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

14. Set 8000 psi CBP at ~8768'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	8513	8514	3	3
MESAVERDE	8594	8595	3	3
MESAVERDE	8674	8676	3	6
MESAVERDE	8724	8726	3	6
MESAVERDE	8744	8746	3	6

15. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 5 on attached listing. Under-displace to ~8513' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

16. Set 8000 psi CBP at ~8496'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	8316	8317	3	3
MESAVERDE	8340	8341	3	3
MESAVERDE	8370	8371	3	3
MESAVERDE	8393	8394	3	3
MESAVERDE	8427	8428	3	3
MESAVERDE	8454	8455	3	3
MESAVERDE	8464	8466	3	6

17. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 6 on attached listing. Under-displace to ~8316' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

18. Set 8000 psi CBP at ~8305'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	8162	8163	3	3
MESAVERDE	8172	8173	3	3
MESAVERDE	8214	8216	3	6
MESAVERDE	8282	8284	3	6
MESAVERDE	8290	8292	3	6

19. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 7 on attached listing. Under-displace to ~8162' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

20. Set 8000 psi CBP at ~8041'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	7819	7820	3	3
MESAVERDE	7834	7835	3	3
MESAVERDE	7860	7861	3	3
MESAVERDE	7897	7898	3	3
MESAVERDE	7907	7908	3	3
MESAVERDE	7932	7933	3	3
MESAVERDE	7988	7989	3	3
MESAVERDE	8010	8011	3	3

21. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 8 on attached listing. Under-displace to ~7819' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

22. Set 8000 psi CBP at ~7794'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	7601	7602	3	3
MESAVERDE	7612	7613	3	3
MESAVERDE	7647	7648	3	3
MESAVERDE	7669	7670	3	3
MESAVERDE	7699	7700	3	3
MESAVERDE	7723	7724	3	3
MESAVERDE	7762	7764	3	6

23. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 9 on attached listing. Under-displace to ~7601' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

24. Set 8000 psi CBP at ~7588'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
MESAVERDE	7338	7339	3	3
MESAVERDE	7396	7397	3	3
MESAVERDE	7446	7447	3	3
MESAVERDE	7458	7459	3	3
MESAVERDE	7561	7563	3	6
MESAVERDE	7573	7575	3	6

25. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 10 on attached listing. Under-displace to ~7338' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs

26. Set 8000 psi CBP at ~7328'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
WASATCH	7052	7054	3	6
WASATCH	7084	7086	3	6
WASATCH	7228	7230	3	6
WASATCH	7297	7299	3	6

27. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 11 on attached listing. Under-displace to ~7052' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

28. Set 8000 psi CBP at ~6954'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
WASATCH	6718	6720	3	6
WASATCH	6820	6823	3	9
WASATCH	6921	6924	3	9

29. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 12 on attached listing. Under-displace to ~6718' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

30. Set 8000 psi CBP at ~6542'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
WASATCH	6328	6330	3	6
WASATCH	6445	6447	3	6
WASATCH	6484	6486	3	6
WASATCH	6510	6512	3	6

31. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 13 on attached listing. Under-displace to ~6328' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

32. Set 8000 psi CBP at ~6278'. Perf the following with 3-1/8" gun, 19 gm, 0.40" hole:

Zone	From	To	spf	# of shots
WASATCH	6153	6154	4	4
WASATCH	6239	6241	4	8
WASATCH	6245	6248	4	12

33. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 7 on attached listing. Under-displace to ~6153' and flush only with recycled water.

34. Set 8000 psi CBP at ~6103'.

35. ND Frac Valves, NU and Test BOPs.

36. TIH with 3 7/8" bit, pump open sub, SN and tubing.

37. Drill 14 plugs and clean out to a depth of 9564' (~ 20' below bottom perfs). This well WILL NOT be commingled at this time.

38. Shift pump open bit sub and land tubing at 9066'. Flow back completion load. RDMO.

39. MIRU, POOH tbg and POBS. TIH with POBS.

40. Drill last plug @ 9574' clean out to PBDT at 10722'. Shear off bit and land tubing at ±10280'. This well WILL be commingled at this time. **NOTE: If the CBP between the initial completion and the recompleted sands has been in the well for more than 30 calendar days from the beginning of flowback for the recompletion, a sundry will need to be filed with the state. Contact the Regulatory group to file the sundry prior to commencing work.**

41. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.

42. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

Completion Engineer

Jamie Berghorn: 303/909-3417, 720/929-6230

Production Engineer

Mickey Doherty: 406/491-7294, 435/781-9740

Ronald Trigo: 352/213-6630, 435/781-7037

Brad Laney: 435/781-7031, 435/828-5469

Boone Bajgier: 435/781/7096, 713/416/4816

Heath Pottmeyer: 740/525-3445, 435/781-9789

Anqi Yang: 435/828-6505, 435/781-7015

Completion Supervisor Foreman

Jeff Samuels: 435/828-6515, 435/781-7046

Completion Manager

Jeff Dufresne: 720/929-6281, 303/241-8428

Vernal Main Office

435/789-3342

Emergency Contact Information—Call 911

Vernal Regional Hospital Emergency: 435-789-3342

Police: (435) 789-5835

Fire: 435-789-4222

Service Company Supplied Chemicals - Job Totals

Friction Reducer	169	gals @	0.3	GPT
Surfactant	563	gals @	1.0	GPT
Clay Stabilizer	0	gals @	0.0	GPT
15% Hcl	3500	gals @	250	gal/stg
Iron Control for acid	18	gals @	5.0	GPT of acid
Surfactant for acid	7	gals @	2.0	GPT of acid
Corrosion Inhibitor for acid	21	gals @	6.0	GPT of acid

Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

Scale Inhibitor	282	gals pumped	0.5	GPT (see schedule)
Biocide	169	gals @	0.3	GPT

Fracturing Schedules
NBU 921-35H1CS
Slickwater Frac

Copy to new book

Casing Size	4.5
Recomplete?	Y
Pad?	Y
ACTS?	N
Days on Pad?	3
Wells on Pad?	4

Swabbing Days	3
Production Log	0
DFIT	0
GR only	Y
Low Scale	Y
Clay Stab.	N

Enter Number of swabbing days here for recompletes
 Enter 1 if running a Production Log
 Enter Number of DFITs
 Enter Y if only Gamma Ray log was run
 Enter Y if a LOW concentration of Scale Inhibitor will be pumped
 Enter N if there will be NO Clay stabilizer

Stage	Zone	Perfs Top, ft. Bot., ft.	SPF Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
# of Perfs/sage																		
1	MESAVERDE	9410	9411	3	Varied	Pre-Pad & Pump-in test		Slickwater	6,143	6,143	146	146						3
	MESAVERDE	9422	9423	3	0	ISP and 5 min ISP		Slickwater	4,725	10,868	113	259	15.0%	0.0%	0	0		2
	MESAVERDE	9446	9447	3	50	Slickwater Pad	0.25	Slickwater	8,925	19,793	213	471	28.3%	21.9%	3,905	3,905		4
	MESAVERDE	9455	9456	3	50	Slickwater Ramp	0	Slickwater	0	19,793	0	471	0.0%	0.0%	0	3,905		0
	MESAVERDE	9485	9486	3	50	SW Sweep	0.63	Slickwater	8,925	28,718	213	684	28.3%	34.4%	6,136	10,041		4
	MESAVERDE	9511	9512	3	50	Slickwater Ramp	0	Slickwater	0	28,718	0	684	0.0%	0.0%	0	10,041		0
	MESAVERDE	9533	9534	3	50	SW Sweep	0.25	Slickwater	0	28,718	0	684	0.0%	0.0%	0	10,041		0
	MESAVERDE	9543	9544	3	50	Slickwater Ramp	0.75	Slickwater	8,925	37,643	213	896	28.3%	43.8%	7,809	17,850		4
	MESAVERDE				50	Flush (4-1/2)		Slickwater	6,143	43,786	146	1,043				17,850		3
	MESAVERDE				ISDP and 5 min ISDP					43,786								22
# of Perfs/sage																		
2	MESAVERDE	9036	9037	3	20.9	<< Above pump time (min)		Slickwater	0	0	0	0						
	MESAVERDE	9109	9110	3	Varied	Pump-in test		Slickwater	3,105	3,105	74	74	15.0%	0.0%	0	0		2
	MESAVERDE	9202	9203	3	50	ISP and 5 min ISP	0.25	Slickwater	5,865	8,970	140	214	28.3%	21.9%	2,566	2,566		3
	MESAVERDE	9211	9212	3	50	Slickwater Ramp	0	Slickwater	0	8,970	0	214	0.0%	0.0%	0	2,566		0
	MESAVERDE	9222	9224	3	6	50 SW Sweep	0.63	Slickwater	5,865	14,835	140	353	28.3%	34.4%	4,032	6,598		3
	MESAVERDE	9279	9281	3	50	Slickwater Ramp	0	Slickwater	0	14,835	0	353	0.0%	0.0%	0	6,598		0
	MESAVERDE				50	SW Sweep	0.25	Slickwater	0	14,835	0	353	0.0%	0.0%	0	6,598		0
	MESAVERDE				50	Slickwater Ramp	0.75	Slickwater	5,865	20,700	140	493	28.3%	43.8%	5,132	11,730		3
	MESAVERDE				50	Flush (4-1/2)		Slickwater	5,938	26,638	141	634				11,730		3
	MESAVERDE				ISDP and 5 min ISDP					26,638								13
# of Perfs/sage																		
3	MESAVERDE	8912	8913	3	12.7	<< Above pump time (min)		Slickwater	0	0	0	0						
	MESAVERDE	8930	8931	3	Varied	Pump-in test		Slickwater	9,675	9,675	230	230	15.0%	0.0%	0	0		5
	MESAVERDE	8949	8950	3	50	ISP and 5 min ISP	0.25	Slickwater	18,275	27,950	435	665	28.3%	21.9%	7,995	7,995		9
	MESAVERDE	9021	9022	3	50	Slickwater Ramp	0	Slickwater	0	27,950	0	665	0.0%	0.0%	0	7,995		0
	MESAVERDE	9037	9038	3	50	SW Sweep	0.63	Slickwater	18,275	46,225	435	1,101	28.3%	34.4%	12,564	20,559		9
	MESAVERDE	9056	9057	3	50	Slickwater Ramp	0	Slickwater	0	46,225	0	1,101	0.0%	0.0%	0	20,559		0
	MESAVERDE	9063	9064	3	50	SW Sweep	0.25	Slickwater	0	46,225	0	1,101	0.0%	0.0%	0	20,559		0
	MESAVERDE	9070	9071	3	50	Slickwater Ramp	0.75	Slickwater	18,275	64,500	435	1,536	28.3%	43.8%	15,991	36,550		9
	MESAVERDE				50	Flush (4-1/2)		Slickwater	5,818	70,318	139	1,674				36,550		3
	MESAVERDE				ISDP and 5 min ISDP					70,318								35
# of Perfs/sage																		
	MESAVERDE				33.5	<< Above pump time (min)		Sand laden	64,500	64,500						340 lbs sand/ft		
# of Perfs/sage																		
				24												600	340 lbs sand/ft	
# of Perfs/sage																		
				24												600	340 lbs sand/ft	
# of Perfs/sage																		
				24												600	340 lbs sand/ft	

Stage	Zone	Perfs		Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
4	MESAVERDE	8778	8779	3	Varied	Pump-in test			Slickwater			0	0						
	MESAVERDE	8797	8798	3	0	ISIP and 5 min ISIP	0.25	0.625	Slickwater	5,310	5,310	126	126	15.0%	0.0%	0	0		3
	MESAVERDE	8807	8808	3	3	50 Slickwater Pad	0	0	Slickwater	10,030	15,340	239	365	28.3%	21.9%	4,388	4,388		5
	MESAVERDE	8814	8815	3	3	50 Slickwater Ramp	0	0.75	Slickwater	0	15,340	0	365	28.3%	0.0%	0	4,388		0
	MESAVERDE	8821	8822	3	3	50 SW Sweep	0.63	0.75	Slickwater	10,030	25,370	239	604	28.3%	34.4%	6,896	11,284		5
	MESAVERDE	8850	8851	3	3	50 Slickwater Ramp	0	0	Slickwater	0	25,370	0	604	28.3%	0.0%	0	11,284		0
	MESAVERDE	8866	8867	3	3	50 SW Sweep	0.25	0.75	Slickwater	0	25,370	0	604	28.3%	0.0%	0	11,284		0
	MESAVERDE	8874	8875	3	3	50 Slickwater Ramp	0.75	1	Slickwater	10,030	35,400	239	843	28.3%	43.8%	8,776	20,060		5
	MESAVERDE				50	Flush (4-1/2)			Slickwater	5,730	41,130	136	979				20,060		3
	MESAVERDE				ISDP and 5 min ISDP				Sand laden Volume		35,400						340 lbs sand/ft	10	21
5	MESAVERDE	8513	8514	3	19.6	<< Above pump time (min)			Slickwater			0	0						
	MESAVERDE	8594	8595	3	Varied	Pump-in test	0.25	0.625	Slickwater	5,985	5,985	143	143	15.0%	0.0%	0	0		3
	MESAVERDE	8674	8676	3	0	ISIP and 5 min ISIP	0	0	Slickwater	11,305	17,290	269	412	28.3%	21.9%	4,946	4,946		6
	MESAVERDE	8724	8726	3	6	50 Slickwater Pad	0	0	Slickwater	0	17,290	0	412	28.3%	0.0%	0	4,946		0
	MESAVERDE	8744	8746	3	6	50 SW Sweep	0.63	0.75	Slickwater	11,305	28,595	269	681	28.3%	34.4%	7,772	12,718		6
	MESAVERDE			3	50 Slickwater Ramp	0	0	0	Slickwater	0	28,595	0	681	28.3%	0.0%	0	12,718		0
	MESAVERDE			3	50 SW Sweep	0.25	0.75	0	Slickwater	0	28,595	0	681	28.3%	0.0%	0	12,718		0
	MESAVERDE			3	50 Slickwater Ramp	0.75	1	1	Slickwater	11,305	39,900	269	950	28.3%	43.8%	9,892	22,610		6
	MESAVERDE				50	Flush (4-1/2)			Slickwater	5,557	45,457	132	1,082				22,610		3
	MESAVERDE				ISDP and 5 min ISDP				Sand laden Volume		39,900						340 lbs sand/ft	17	23
6	MESAVERDE	8316	8317	3	21.6	<< Above pump time (min)			Slickwater			0	0						
	MESAVERDE	8340	8341	3	Varied	Pump-in test	0.25	0.625	Slickwater	5,850	5,850	139	139	15.0%	0.0%	0	0		3
	MESAVERDE	8370	8371	3	0	ISIP and 5 min ISIP	0	0	Slickwater	11,050	16,900	263	402	28.3%	21.9%	4,834	4,834		6
	MESAVERDE	8393	8394	3	3	50 Slickwater Pad	0	0	Slickwater	0	16,900	0	402	28.3%	0.0%	0	4,834		0
	MESAVERDE	8427	8428	3	3	50 SW Sweep	0.63	0.75	Slickwater	11,050	27,950	263	665	28.3%	34.4%	7,597	12,431		6
	MESAVERDE	8454	8455	3	3	50 Slickwater Ramp	0	0	Slickwater	0	27,950	0	665	28.3%	0.0%	0	12,431		0
	MESAVERDE	8464	8466	3	6	50 SW Sweep	0.25	0.75	Slickwater	0	27,950	0	665	28.3%	0.0%	0	12,431		0
	MESAVERDE			3	50 Slickwater Ramp	0.75	1	1	Slickwater	11,050	39,000	263	929	28.3%	43.8%	9,669	22,100		6
	MESAVERDE				50	Flush (4-1/2)			Slickwater	5,429	44,429	129	1,058				22,100		3
	MESAVERDE				ISDP and 5 min ISDP				Sand laden Volume		39,000						340 lbs sand/ft	11	22
7	MESAVERDE	8513	8514	3	19.6	<< Above pump time (min)			Slickwater			0	0						
	MESAVERDE	8594	8595	3	Varied	Pump-in test	0.25	0.625	Slickwater	5,985	5,985	143	143	15.0%	0.0%	0	0		3
	MESAVERDE	8674	8676	3	0	ISIP and 5 min ISIP	0	0	Slickwater	11,305	17,290	269	412	28.3%	21.9%	4,946	4,946		6
	MESAVERDE	8724	8726	3	6	50 Slickwater Pad	0	0	Slickwater	0	17,290	0	412	28.3%	0.0%	0	4,946		0
	MESAVERDE	8744	8746	3	6	50 SW Sweep	0.63	0.75	Slickwater	11,305	28,595	269	681	28.3%	34.4%	7,772	12,718		6
	MESAVERDE			3	50 Slickwater Ramp	0	0	0	Slickwater	0	28,595	0	681	28.3%	0.0%	0	12,718		0
	MESAVERDE			3	50 SW Sweep	0.25	0.75	0	Slickwater	0	28,595	0	681	28.3%	0.0%	0	12,718		0
	MESAVERDE			3	50 Slickwater Ramp	0.75	1	1	Slickwater	11,305	39,900	269	950	28.3%	43.8%	9,892	22,610		6
	MESAVERDE				50	Flush (4-1/2)			Slickwater	5,557	45,457	132	1,082				22,610		3
	MESAVERDE				ISDP and 5 min ISDP				Sand laden Volume		39,900						340 lbs sand/ft	17	23

Sage	Zone	Perfs		Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	% of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
7	MESAVERDE	8162	8163	3	Varied	Pump-in test			Slickwater		0	0	0	0					
	MESAVERDE	8172	8173	3	0	ISIP and 5 min ISIP	0.25	0.625	Slickwater	2,970	2,970	71	71	15.0%	0.0%	0	0		1
	MESAVERDE	8214	8216	3	6	50 Slickwater Pad	0	0	Slickwater	5,610	8,580	134	204	28.3%	21.9%	2,454	2,454		3
	MESAVERDE	8282	8284	3	6	50 Slickwater Ramp	0.63	0.75	Slickwater	0	8,580	0	0	28.3%	0.0%	0	2,454		0
	MESAVERDE	8290	8292	3	6	50 SW Sweep	0	0	Slickwater	5,610	14,190	134	338	28.3%	34.4%	3,857	6,311		3
	MESAVERDE				50	50 Slickwater Ramp	0	0	Slickwater	0	14,190	0	0	28.3%	0.0%	0	6,311		0
	MESAVERDE				50	50 SW Sweep	0.25	0.75	Slickwater	0	14,190	0	0	28.3%	0.0%	0	6,311		0
	MESAVERDE				50	50 Slickwater Ramp	0.75	1	Slickwater	5,610	19,800	134	471	28.3%	43.8%	4,909	11,220		3
	MESAVERDE				50	Flush (4-1/2)			Slickwater	5,328	25,128	127	598				11,220		3
	MESAVERDE					ISDP and 5 min ISDP													13
	MESAVERDE			24					Sand laden Volume	19,800					gal/ft	600	340 lbs sand/ft	121	
	MESAVERDE				12.0						0	0	0						
8	MESAVERDE	7819	7820	3	Varied	Pump-in test			Slickwater		0	0	0						
	MESAVERDE	7834	7835	3	0	ISIP and 5 min ISIP	0.25	0.625	Slickwater	9,855	9,855	235	235	15.0%	0.0%	0	0		5
	MESAVERDE	7860	7861	3	3	50 Slickwater Pad	0	0	Slickwater	18,615	28,470	443	678	28.3%	21.9%	8,144	8,144		9
	MESAVERDE	7897	7898	3	3	50 Slickwater Ramp	0.63	0.75	Slickwater	0	28,470	0	0	28.3%	0.0%	0	8,144		0
	MESAVERDE	7907	7908	3	3	50 SW Sweep	0	0	Slickwater	18,615	47,085	443	1,121	28.3%	34.4%	12,798	20,942		9
	MESAVERDE	7932	7933	3	3	50 Slickwater Ramp	0	0	Slickwater	0	47,085	0	0	28.3%	0.0%	0	20,942		0
	MESAVERDE	7988	7989	3	3	50 SW Sweep	0.25	0.75	Slickwater	0	47,085	0	0	28.3%	0.0%	0	20,942		0
	MESAVERDE	8010	8011	3	3	50 Slickwater Ramp	0.75	1	Slickwater	18,615	65,700	443	1,564	28.3%	43.8%	16,288	37,230		9
	MESAVERDE				50	50 Slickwater Ramp			Slickwater	5,104	70,804	122	1,686				37,230		3
	MESAVERDE					ISDP and 5 min ISDP													35
	MESAVERDE								Sand laden Volume	65,700					gal/ft	600	340 lbs sand/ft	25	
	MESAVERDE			24							0	0	0						
	MESAVERDE				33.7														
	MESAVERDE																		
9	MESAVERDE	7601	7602	3	Varied	Pump-in test			Slickwater		0	0	0						
	MESAVERDE	7612	7613	3	0	ISIP and 5 min ISIP	0.25	0.625	Slickwater	8,325	8,325	198	198	15.0%	0.0%	0	0		4
	MESAVERDE	7647	7648	3	3	50 Slickwater Pad	0	0	Slickwater	15,725	24,050	374	573	28.3%	21.9%	6,880	6,880		8
	MESAVERDE	7669	7670	3	3	50 Slickwater Ramp	0.63	0.75	Slickwater	0	24,050	0	0	28.3%	0.0%	0	6,880		0
	MESAVERDE	7699	7700	3	3	50 SW Sweep	0	0	Slickwater	15,725	39,775	374	947	28.3%	34.4%	10,811	17,691		8
	MESAVERDE	7723	7724	3	3	50 Slickwater Ramp	0	0	Slickwater	0	39,775	0	0	28.3%	0.0%	0	17,691		0
	MESAVERDE	7762	7764	3	6	50 SW Sweep	0.25	0.75	Slickwater	0	39,775	0	0	28.3%	0.0%	0	17,691		0
	MESAVERDE				50	50 Slickwater Ramp	0.75	1	Slickwater	15,725	55,500	374	1,321	28.3%	43.8%	13,759	31,450		8
	MESAVERDE				50	Flush (4-1/2)			Slickwater	4,962	60,462	118	1,440				31,450		2
	MESAVERDE					ISDP and 5 min ISDP													30
	MESAVERDE								Sand laden Volume	55,500					gal/ft	600	340 lbs sand/ft	13	
	MESAVERDE			24															
	MESAVERDE				28.8														
	MESAVERDE																		

Stage	Zone	Perfs		SPF	Holes	Rate BPM	Fluid Type	Initial ppg	Final ppg	Fluid	Volume gals	Cum Vol gals	Volume BBLs	Cum Vol BBLs	Fluid % of frac	Sand % of frac	Sand lbs	Cum. Sand lbs	Footage from CBP to Flush	Scale Inhib., gal.
		Top. ft.	Bot., ft.																	
10	MESAVERDE	7338	7339	3	3	Varied	Pump-in test			Slickwater	0	0	0	0	0					
	MESAVERDE	7396	7397	3	3	0	ISP and 5 min ISP			Slickwater	5,130	5,130	122	122	15.0%	0.0%	0	0		3
	MESAVERDE	7446	7447	3	3	50	Slickwater Pad	0.25	0.625	Slickwater	9,690	14,820	231	353	28.3%	21.9%	4,239	4,239		5
	MESAVERDE	7458	7459	3	3	50	SW Sweep	0	0	Slickwater	0	14,820	0	353	0.0%	0.0%	0	4,239		0
	MESAVERDE	7561	7563	3	6	50	Slickwater Ramp	0.63	0.75	Slickwater	9,690	24,510	231	584	28.3%	34.4%	6,662	10,901		5
	MESAVERDE	7573	7575	3	6	50	SW Sweep	0	0	Slickwater	0	24,510	0	584	0.0%	0.0%	0	10,901		0
	MESAVERDE					50	Slickwater Ramp	0.25	0.75	Slickwater	0	24,510	0	584	0.0%	0.0%	0	10,901		0
	MESAVERDE					50	Slickwater Ramp	0.75	1	Slickwater	9,690	34,200	231	814	28.3%	43.8%	8,479	19,380		5
	MESAVERDE					50	Flush (4-1/2)			Slickwater	4,790	38,990	114	928			19,380	19,380		2
	MESAVERDE					50	ISDP and 5 min ISDP													19
										Sand laden Volume	34,200			Flush depth 7,338	gal/ft	600	340	lbs sand/ft	10	
11	WASATCH	7052	7054	3	6	18.6	Pump-in test			Slickwater	0	0	0	0	0					
	WASATCH	7084	7086	3	6	0	ISP and 5 min ISP			Slickwater	3,059	3,059	73	73	15.0%	0.0%	0	0		2
	WASATCH	7228	7230	3	6	50	Slickwater Pad	0.25	1	Slickwater	10,198	13,258	243	316	50.0%	37.3%	6,374	6,374		5
	WASATCH	7297	7299	3	6	50	Slickwater Ramp	1	2	Slickwater	7,139	20,396	170	486	35.0%	62.7%	10,708	17,082		4
	WASATCH					50	Slickwater Ramp			Slickwater	4,604	25,000	110	595			17,082	17,082		2
	WASATCH					50	Flush (4-1/2)			Slickwater									2	
	WASATCH					50	ISDP and 5 min ISDP												0	
	WASATCH									Slickwater	25,000	25,000	110	595			17,082	17,082		0
	WASATCH																		0	0
	WASATCH																		0	0
										Sand laden Volume	20,396			Flush depth 7,052	gal/ft	1,073	899	lbs sand/ft	98	
12	WASATCH	6718	6720	3	6	11.9	Pump-in test			Slickwater	0	0	0	0	0					
	WASATCH	6820	6823	3	9	0	ISP and 5 min ISP			Slickwater	3,092	3,092	74	74	15.0%	0.0%	0	0		2
	WASATCH	6921	6924	3	9	50	Slickwater Pad	0.25	1	Slickwater	10,307	13,399	245	319	50.0%	37.3%	6,442	6,442		5
	WASATCH					50	Slickwater Ramp	1	2	Slickwater	7,215	20,614	172	491	35.0%	62.7%	10,823	17,265		4
	WASATCH					50	Slickwater Ramp			Slickwater	4,386	25,000	104	595			17,265	17,265		2
	WASATCH					50	Flush (4-1/2)			Slickwater									2	
	WASATCH					50	ISDP and 5 min ISDP												0	
	WASATCH									Slickwater									0	
	WASATCH																		0	0
	WASATCH																		0	0
										Sand laden Volume	20,614			Flush depth 6,718	gal/ft	1,374	1,151	lbs sand/ft	176	
														Flush depth 6,542					13	

[illegible]

NBU 921-35H1CS
Perforation and CBP Summary

Stage	Zones	Perforations		SPF	Holes	Fracture Coverage		
		Top, ft	Bottom, ft					
1	MESAVERDE	9410	9411	3	3	9408.5	to	9550
	MESAVERDE	9422	9423	3	3			
	MESAVERDE	9446	9447	3	3			
	MESAVERDE	9455	9456	3	3			
	MESAVERDE	9485	9486	3	3			
	MESAVERDE	9511	9512	3	3			
	MESAVERDE	9533	9534	3	3			
	MESAVERDE	9543	9544	3	3			
	# of Perfs/stage				24	CBP DEPTH	9,311	
2	MESAVERDE	9096	9097	3	3	9096	to	9286
	MESAVERDE	9109	9110	3	3			
	MESAVERDE	9202	9203	3	3			
	MESAVERDE	9211	9212	3	3			
	MESAVERDE	9222	9224	3	6			
	MESAVERDE	9279	9281	3	6			
	MESAVERDE							
	MESAVERDE							
	# of Perfs/stage				24	CBP DEPTH	9,084	
3	MESAVERDE	8912	8913	3	3	8905	to	9078
	MESAVERDE	8930	8931	3	3			
	MESAVERDE	8949	8950	3	3			
	MESAVERDE	9021	9022	3	3			
	MESAVERDE	9037	9038	3	3			
	MESAVERDE	9056	9057	3	3			
	MESAVERDE	9063	9064	3	3			
	MESAVERDE	9070	9071	3	3			
	# of Perfs/stage				24	CBP DEPTH	8,898	
4	MESAVERDE	8778	8779	3	3	8778	to	8883
	MESAVERDE	8797	8798	3	3			
	MESAVERDE	8807	8808	3	3			
	MESAVERDE	8814	8815	3	3			
	MESAVERDE	8821	8822	3	3			
	MESAVERDE	8850	8851	3	3			
	MESAVERDE	8866	8867	3	3			
	MESAVERDE	8874	8875	3	3			
	# of Perfs/stage				24	CBP DEPTH	8,768	
5	MESAVERDE	8513	8514	3	3	8513	to	8752
	MESAVERDE	8594	8595	3	3			
	MESAVERDE	8674	8676	3	6			
	MESAVERDE	8724	8726	3	6			
	MESAVERDE	8744	8746	3	6			
	MESAVERDE			3				
	MESAVERDE			3				
	MESAVERDE			3				
	# of Perfs/stage				24	CBP DEPTH	8,496	
6	MESAVERDE	8316	8317	3	3	8316	to	8474
	MESAVERDE	8340	8341	3	3			
	MESAVERDE	8370	8371	3	3			
	MESAVERDE	8393	8394	3	3			
	MESAVERDE	8427	8428	3	3			
	MESAVERDE	8454	8455	3	3			
	MESAVERDE	8464	8466	3	6			
	MESAVERDE			3				
	# of Perfs/stage				24	CBP DEPTH	8,305	
7	MESAVERDE	8162	8163	3	3	8162	to	8300
	MESAVERDE	8172	8173	3	3			
	MESAVERDE	8214	8216	3	6			
	MESAVERDE	8282	8284	3	6			
	MESAVERDE	8290	8292	3	6			
	MESAVERDE							
	MESAVERDE							
	MESAVERDE							
	# of Perfs/stage				24	CBP DEPTH	8,041	

Stage	Zones	Perforations		SPF	Holes	Fracture Coverage		
		Top, ft	Bottom, ft					
8	MESAVERDE	7819	7820	3	3	7818	to	8021
	MESAVERDE	7834	7835	3	3			
	MESAVERDE	7860	7861	3	3			
	MESAVERDE	7897	7898	3	3			
	MESAVERDE	7907	7908	3	3			
	MESAVERDE	7932	7933	3	3			
	MESAVERDE	7988	7989	3	3			
	MESAVERDE	8010	8011	3	3			
	# of Perfs/stage				24	CBP DEPTH	7,794	
9	MESAVERDE	7601	7602	3	3	7596	to	7782
	MESAVERDE	7612	7613	3	3			
	MESAVERDE	7647	7648	3	3			
	MESAVERDE	7669	7670	3	3			
	MESAVERDE	7699	7700	3	3			
	MESAVERDE	7723	7724	3	3			
	MESAVERDE	7762	7764	3	6			
	MESAVERDE							
	# of Perfs/stage				24	CBP DEPTH	7,588	
10	MESAVERDE	7338	7339	3	3	7335	to	7584
	MESAVERDE	7396	7397	3	3			
	MESAVERDE	7446	7447	3	3			
	MESAVERDE	7458	7459	3	3			
	MESAVERDE	7561	7563	3	6			
	MESAVERDE	7573	7575	3	6			
	MESAVERDE							
	MESAVERDE							
	# of Perfs/stage				24	CBP DEPTH	7,328	
11	WASATCH	7052	7054	3	6	7052	to	7310
	WASATCH	7084	7086	3	6			
	WASATCH	7228	7230	3	6			
	WASATCH	7297	7299	3	6			
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				24	CBP DEPTH	6,954	
12	WASATCH	6718	6720	3	6	6717	to	6935
	WASATCH	6820	6823	3	9			
	WASATCH	6921	6924	3	9			
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				24	CBP DEPTH	6,542	
13	WASATCH	6328	6330	3	6	6328	to	6525
	WASATCH	6445	6447	3	6			
	WASATCH	6484	6486	3	6			
	WASATCH	6510	6512	3	6			
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				24	CBP DEPTH	6,278	
14	WASATCH	6153	6154	4	4	6153	to	6261
	WASATCH	6239	6241	4	8			
	WASATCH	6245	6248	4	12			
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				24	CBP DEPTH	6,103	
Totals					336	Total Pay		742.0

Acid Pickling and H2S Procedures (If Required)

****PROCEDURE FOR PUMPING ACID DOWN TBG**

WHEN FINDING SCALE IN TUBING THAT IS ACID SOLUBLE, ENSURE THAT PLUNGER EQUIPMENT IS REMOVED AND ABLE TO PUMP DOWN TBG. INSTALL A 'T' IN PUMP LINE W/2" VALVE THAT NALCO CAN TIE INTO. HAVE 60 BBLS 2% KCL MIXED W/ 10-15 GAL H2S SCAVENGER IN RIG FLAT TANK. (WE USED THE RIG FLAT TANK FOR MIXING CHEMICAL SO WE DIDN'T HAVE THE CHEMICAL IN ALL FLUIDS ON LOCATION, ONLY WHAT WE NEEDED TO PUMP DOWN HOLE)

1. PUMP 5-10 BBLS 2% KCL DOWN TBG (NALCO CANNOT PUMP AGAINST PRESSURE)
2. NALCO WILL PUMP 3 DRUMS HCL (31%) INTO PUMP LINE.
3. FLUSH BEHIND ACID WITH 10-15 BBL 2% KCL
4. PUMP 2—30 BBL 2% W/ H2S SCAVENGER DOWN TBG.
5. PUMP REMAINDER OF 2% W/ H2S SCAVENGER DOWN CASING AND SHUT WELL IN FOR MINIMUM OF 2 HRS.
6. OVER DISPLACE DOWN TBG AND CSG TO FLUSH ACID AND SCAVENGER INTO FORMATION
7. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

**** PROCEDURE FOR PUMPING H2S SCAVENGER WITHOUT ACID**

PRIOR TO RIG MOVING ON OR AS RIG PULLS ONTO LOCATION. TEST CASING, TUBING AND SEPARATOR FOR H2S. IF FOUND MAKE SURE THAT PLUNGER SYSTEM IS REMOVED (IT IS POSSIBLE TO PUMP AROUND PLUNGERS BUT SOME WILL HAVE A STANDING VALVE IN SEATING NIPPLE).

1. MIX 10-15 GAL H2S SCAVENGER WITH 60-100 BBL 2% KCL IN RIG FLAT TANK.
2. PUMP 25 BBLS MIXTURE DOWN TUBING AND REST DOWN CASING. SHUT WELL IN FOR 2 HOURS.
3. IF WELL HAS PRESSURE AFTER 2 HOURS – RETEST CASING AND TUBING FOR H2S.
4. FLUSH TUBING AND CASING PUSHING H2S SCAVENGER INTO FORMATION.
5. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

** As per APC standard operating procedure, APC foreman will verify ALL volumes pumped and record on APC Volume Report Form

MD	TVD	EW	NS	INC	AZI	MD	TVD	EW	NS	INC	AZI
0.00	0.00	0.00	0.00	0.00	0.00	5200.00	5170.85	-6.16	390.07	0.00	0.00
100.00	100.00	0.00	0.00	0.00	0.00	5300.00	5270.85	-6.16	390.07	0.00	0.00
200.00	200.00	0.00	0.00	0.00	0.00	5400.00	5370.85	-6.16	390.07	0.00	0.00
300.00	300.00	0.00	0.00	0.00	0.00	5500.00	5470.85	-6.16	390.07	0.00	0.00
400.00	399.98	0.60	1.64	2.00	20.00	5600.00	5570.85	-6.16	390.07	0.00	0.00
450.00	449.93	1.34	3.69	3.00	20.00	5700.00	5670.85	-6.16	390.07	0.00	0.00
500.00	499.84	2.15	6.58	3.89	12.29	5800.00	5770.85	-6.16	390.07	0.00	0.00
600.00	599.48	3.25	14.91	5.78	4.28	5900.00	5870.85	-6.16	390.07	0.00	0.00
700.00	698.79	3.65	26.64	7.72	0.24	6000.00	5970.85	-6.16	390.07	0.00	0.00
770.67	768.69	3.52	36.98	9.11	358.43	6100.00	6070.85	-6.16	390.07	0.00	0.00
800.00	797.65	3.39	41.62	9.11	358.43	6200.00	6170.85	-6.16	390.07	0.00	0.00
900.00	896.39	2.96	57.45	9.11	358.43	6300.00	6270.85	-6.16	390.07	0.00	0.00
1000.00	995.13	2.52	73.27	9.11	358.43	6400.00	6370.85	-6.16	390.07	0.00	0.00
1100.00	1093.87	2.09	89.10	9.11	358.43	6500.00	6470.85	-6.16	390.07	0.00	0.00
1200.00	1192.61	1.66	104.92	9.11	358.43	6600.00	6570.85	-6.16	390.07	0.00	0.00
1300.00	1291.35	1.22	120.75	9.11	358.43	6700.00	6670.85	-6.16	390.07	0.00	0.00
1400.00	1390.09	0.79	136.57	9.11	358.43	6800.00	6770.85	-6.16	390.07	0.00	0.00
1500.00	1488.83	0.35	152.39	9.11	358.43	6900.00	6870.85	-6.16	390.07	0.00	0.00
1600.00	1587.57	-0.08	168.22	9.11	358.43	7000.00	6970.85	-6.16	390.07	0.00	0.00
1700.00	1686.30	-0.51	184.04	9.11	358.43	7100.00	7070.85	-6.16	390.07	0.00	0.00
1800.00	1785.04	-0.95	199.87	9.11	358.43	7200.00	7170.85	-6.16	390.07	0.00	0.00
1900.00	1883.78	-1.38	215.69	9.11	358.43	7300.00	7270.85	-6.16	390.07	0.00	0.00
2000.00	1982.52	-1.82	231.52	9.11	358.43	7400.00	7370.85	-6.16	390.07	0.00	0.00
2100.00	2081.26	-2.25	247.34	9.11	358.43	7500.00	7470.85	-6.16	390.07	0.00	0.00
2200.00	2180.00	-2.68	263.17	9.11	358.43	7600.00	7570.85	-6.16	390.07	0.00	0.00
2300.00	2278.74	-3.12	278.99	9.11	358.43	7700.00	7670.85	-6.16	390.07	0.00	0.00
2400.00	2377.48	-3.55	294.81	9.11	358.43	7800.00	7770.85	-6.16	390.07	0.00	0.00
2500.00	2476.22	-3.98	310.64	9.11	358.43	7900.00	7870.85	-6.16	390.07	0.00	0.00
2600.00	2574.96	-4.42	326.46	9.11	358.43	8000.00	7970.85	-6.16	390.07	0.00	0.00
2700.00	2673.69	-4.85	342.29	9.11	358.43	8100.00	8070.85	-6.16	390.07	0.00	0.00
2773.73	2746.49	-5.17	353.96	9.11	358.43	8200.00	8170.85	-6.16	390.07	0.00	0.00
2800.00	2772.45	-5.28	357.99	8.58	358.43	8300.00	8270.85	-6.16	390.07	0.00	0.00
2900.00	2871.57	-5.64	371.18	6.58	358.43	8400.00	8370.85	-6.16	390.07	0.00	0.00
3000.00	2971.09	-5.91	380.91	4.58	358.43	8500.00	8470.85	-6.16	390.07	0.00	0.00
3100.00	3070.89	-6.08	387.16	2.58	358.43	8600.00	8570.85	-6.16	390.07	0.00	0.00
3200.00	3170.85	-6.16	389.92	0.58	358.43	8700.00	8670.85	-6.16	390.07	0.00	0.00
3229.15	3200.00	-6.16	390.07	0.00	0.00	8800.00	8770.85	-6.16	390.07	0.00	0.00
3300.00	3270.85	-6.16	390.07	0.00	0.00	8900.00	8870.85	-6.16	390.07	0.00	0.00
3400.00	3370.85	-6.16	390.07	0.00	0.00	9000.00	8970.85	-6.16	390.07	0.00	0.00
3500.00	3470.85	-6.16	390.07	0.00	0.00	9100.00	9070.85	-6.16	390.07	0.00	0.00
3600.00	3570.85	-6.16	390.07	0.00	0.00	9200.00	9170.85	-6.16	390.07	0.00	0.00
3700.00	3670.85	-6.16	390.07	0.00	0.00	9300.00	9270.85	-6.16	390.07	0.00	0.00
3800.00	3770.85	-6.16	390.07	0.00	0.00	9400.00	9370.85	-6.16	390.07	0.00	0.00
3900.00	3870.85	-6.16	390.07	0.00	0.00	9500.00	9470.85	-6.16	390.07	0.00	0.00
4000.00	3970.85	-6.16	390.07	0.00	0.00	9600.00	9570.85	-6.16	390.07	0.00	0.00
4100.00	4070.85	-6.16	390.07	0.00	0.00	9700.00	9670.85	-6.16	390.07	0.00	0.00
4200.00	4170.85	-6.16	390.07	0.00	0.00	9800.00	9770.85	-6.16	390.07	0.00	0.00
4300.00	4270.85	-6.16	390.07	0.00	0.00	9900.00	9870.85	-6.16	390.07	0.00	0.00
4400.00	4370.85	-6.16	390.07	0.00	0.00	10000.00	9970.85	-6.16	390.07	0.00	0.00
4500.00	4470.85	-6.16	390.07	0.00	0.00	10100.00	10070.85	-6.16	390.07	0.00	0.00
4600.00	4570.85	-6.16	390.07	0.00	0.00	10200.00	10170.85	-6.16	390.07	0.00	0.00
4700.00	4670.85	-6.16	390.07	0.00	0.00	10300.00	10270.85	-6.16	390.07	0.00	0.00
4800.00	4770.85	-6.16	390.07	0.00	0.00	10400.00	10370.85	-6.16	390.07	0.00	0.00
4900.00	4870.85	-6.16	390.07	0.00	0.00	10500.00	10470.85	-6.16	390.07	0.00	0.00
5000.00	4970.85	-6.16	390.07	0.00	0.00	10600.00	10570.85	-6.16	390.07	0.00	0.00
5100.00	5070.85	-6.16	390.07	0.00	0.00	10609.15	10580.00	-6.16	390.07	0.00	0.00

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
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3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 921-35H1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2133 FNL 0490 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENE Section: 35 Township: 09.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047513660000
10. FIELD and POOL or WILDCAT: NATURAL BUTTES		COUNTY: UTAH
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TYPE OF SUBMISSION <input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 3/25/2015 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	TYPE OF ACTION <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input checked="" type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. An NOI was approved on 4/30/2014 to recomplete the Meseverde formation on the NBU 921-35H1CS well, but due to poor economics Kerr-McGee Oil & Gas Onshore LP respectfully requests to isolate and plugback the Blackhawk formation with a CIBP, cap the CIBP with cement, perform an MIT and leave the well shut-in for a future recomplete. Please see the attached procedure for further details. Thank you.		
NAME (PLEASE PRINT) Kristina Geno		PHONE NUMBER 720 929-6824
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 3/24/2015		APPROVED BY: <div style="text-align: center;"> Approved by the March 26, 2015 Oil, Gas and Mining </div> Date: _____ By: <u>Derek Duff</u>

NBU 921-35H1CS (NBU 921-35H Pad)**W.O.#****Plug back Blackhawk perms, MIT, then Shut-in for Future Recomplete****SW NE SE NE Sec 35 T9S R21E****LAT:** 39.993893 **LONG:** -109.511222 **COORDINATE:** NAD83 (*Surface Location*)**Uintah County, UT****ELEVATIONS:** 5,098' GL 5,124' KB *Frac Registry TVD: 10,749'***TOTAL DEPTH:** 10,792' **PBTD:** 10,722'**SURFACE CASING:** 8 5/8", 28# J-55 LTC @ 2,709'**PRODUCTION CASING:** 4 1/2", 11.6#, P-110 DQX @ 4,410'

4 1/2", 11.6#, P-110 LTC @ 10,767'

Marker Joint **4,367-4,388 & 7,487-7,508 & 10,096-10,117'****PRODUCTION TUBING:** There is no tubing in the hole**TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl./ft)	(gal/ft)
2 3/8" 4.7# L-80 tbg	11,200	11,780	1.901"	0.00387	0.1624
4 1/2" 11.6# P-110	10691	7560	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

TOPS:

1,563' Green River Top

1,756' Bird's Nest Top

2,324' Mahogany Top

4,798' Wasatch Top

7,543' Mesaverde Top

*Based on latest geological interpretation

BOTTOMS:

7,543' Wasatch Bottom

10,792' Mesaverde Bottom (TD)

T.O.C. @ 270'

**Based on latest interpretation of CBL

Existing Perforations:

<u>PERFORATIONS</u>							
<u>Formation</u>	<u>Zone</u>	<u>Top</u>	<u>Btm</u>	<u>spf</u>	<u>Shots</u>	<u>Date</u>	<u>Reason</u>
MESAVERDE	BLACKHAWK	10258	10260	4	8		PRODUCTION
MESAVERDE	BLACKHAWK	10276	10280	4	16		PRODUCTION
MESAVERDE	BLACKHAWK	10304	10306	3	6		PRODUCTION
MESAVERDE	BLACKHAWK	10314	10316	3	6		PRODUCTION
MESAVERDE	BLACKHAWK	10325	10326	3	3		PRODUCTION
MESAVERDE	BLACKHAWK	10352	10354	3	6		PRODUCTION
MESAVERDE	BLACKHAWK	10370	10371	3	3		PRODUCTION
MESAVERDE	BLACKHAWK	10422	10425	4	12		PRODUCTION
MESAVERDE	BLACKHAWK	10438	10439	4	4		PRODUCTION
MESAVERDE	BLACKHAWK	10641	10643	4	8		PRODUCTION

CONTACT INFORMATION:

IOC		435-781-9751
FOREMAN	Jason Hackford	435-790-6793
MECHANICAL LEAD	Jim Houghton	435-790-6903
OPERATOR	Derrick Wiseman	435-828-7529
OPERATOR	Rhett Whitmire	435-823-4482
ENGINEER	Robert Miller	435-828-6510

Relevant History:

03/12/2012: Originally completed in Mesaverde formation (3 stages) with ~ 327050 gallons of Slickwater, 180521 lbs of 30/50 TLC sand. C/O to 10,722' & landed tubing @ 10,280'.

06/26/2014: Scanned tubing out of hole and laid down. Ran a gauge ring and then a CBP to 9574'. Tested casing to 6200psi for 15 minutes, lost 54 psi during test. Left well T&A for recomplete.

Nov 2014: Removed frac valve and installed tree.

PROCEDURE: (note: there is no tubing in the well, so you will have to get a work string to cap CBP with cement).

1. MIRU. RIH w/ gauge ring to $\pm 10,250'$. RIH w/ a CIBP and set @ 10,220'. ND WH, NU BOP's and test.
2. Pick up 2 3/8" workstring and tag CIBP just run. Perform a MIT on the casing to 1000 psi (have charted to send information to the agencies and bring results to Robert Miller). Cap CIBP with 105' of class "G" cement (8 sxs/9.2 ft³/1.6 bbls). POOH with tubing and lay down.
3. Well to remain shut in until a future recomplete.

4. NDBOPE and NUWH.
5. Notify CDC, foreman, & operators of RDMOL

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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, LP concluded temporary abandonment operations on the NBU 921-35H1CS well on 6/22/2015. Please see the attached operations summary report for details. Thank you.		
NAME (PLEASE PRINT) Jennifer Thomas		PHONE NUMBER 720 929-6808
SIGNATURE N/A		TITLE Regulatory Specialist
DATE 6/29/2015		FOR RECORD ONLY June 30, 2015

US ROCKIES REGION
Operation Summary Report

Well: NBU 921-35H1CS YELLOW				Spud Conductor: 8/17/2011				Spud date: 9/2/2011			
Project: UTAH-UINTAH				Site: NBU 921-35H PAD				Rig name no.: GWS 1/1			
Event: ABANDONMENT				Start date: 6/18/2015				End date: 6/22/2015			
Active datum: RKB @5,124.00usft (above Mean Sea Level)				UWI: SE/NE/0/9/S/21/E/35/0/0/26/PM/N/2133/E/0/490/0/0							
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD from (usft)	Operation			
6/18/2015	6:45 - 7:00	0.25	ABANDT	48		P		HSM.			
	7:00 - 8:30	1.50	ABANDT	30	A	P		RU RIG. OPEN WELL 0 PSI. ND WH, NU BOP. RU RIG FLOOR & TBG EQUIP. PREP & TALLY 23/8 P-110 TBG.			
	8:30 - 17:00	8.50	ABANDT	31	I	P		PU 33/4 BIT & BIT SUB. RIH W/ 302 JTS 23/8 P-110 TBG. TAG CBP @ 9574'. RU DRL EQUIP. SWIFN.			
6/19/2015	6:45 - 7:00	0.25	ABANDT	48		P		HSM.			
	7:00 - 8:30	1.50	ABANDT	44	C	P		OPEN WELL 0 PSI. BRK CONV CIRC. DRL OUT CBP @ 9574' IN 5 MIN. WELL WENT ON VACUUM. RD DRL EQUIP. CONT RIH & PUSH CBP IN T/ PERF'S.			
	8:30 - 12:00	3.50	ABANDT	31	I	P		XO TBG EQUIP. POOH, LD 2 JTS & STD BCK 322 JTS. LD BIT SUB & 33/4 BIT.			
	12:00 - 13:00	1.00	ABANDT	34	I	P		MIRU CUTTERS WL. PU 41/2 CIBP. RIH SET CIBP @ 10,212'. POOH W/ WL. RDMO CUTTERS.			
	13:00 - 15:00	2.00	ABANDT	31	I	P		PU 23/8 NC. RIH W/ 322 JTS 23/8 P-110 TBG. TAG CIBP @ 10,212'. LD 1 JTS. RU CIRC EQUIP. CIRC GAS OUT OF WELL.			
	15:00 - 17:00	2.00	ABANDT	33	C	P		MIRU CAMERON TEST TRUCK. PSI TEST CSG T/ 1000 PSI (MIT TEST). HOLD FOR 30 MIN. GAIN 2 PSI. BLEED OFF PSI. SWIFWE. RDMO CAMERON TEST TRUCK.			
	6:45 - 7:00	0.25	ABANDT	48		P		HSM.			
6/22/2015	7:00 - 9:00	2.00	ABANDT	51	D	P		OPEN WELL 0 PSI. MIRU PRO PETRO. BRK CONV CIRC. PUMP 5 BBLS FRESH, 8 SX CLASS G CMT, DISPLACE W/ 34 BBLS. SHUT DOWN PUMPING. POOH LD 6 JTS. REV CMT T/ SURFACE. ROLL HOLE W/ PKR FLUID. RDMO PRO PETRO.			
	9:00 - 16:00	7.00	ABANDT	31	I	P		POOH LD 322 JTS 23/8 P-110 WORK STRING & NC. RD TBG EQUIP & RIG FLOOR. ND BOP. NU WH. RD RIG. SPOT RIG ON 35H4BS. SDFN.			



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

February 2, 2016

CERTIFIED MAIL NO. 7014 2870 0001 4232 4887

43 047 51366
NBU 921-35H1CS
35 95 21E

Mr. Joel Malefyte
Kerr-McGee Oil and Gas Onshore
PO Box 173779
Denver, CO 80217-3779

Subject: Extended Shut-in and Temporary Abandoned Well Requirements for Fee or State Leases

Dear Mr. Malefyte:

As of January 2016, Emery Kerr-McGee Oil and Gas Onshore has three (3) State Lease Wells (see attachment A) that are currently in non-compliance with the requirements for extended shut-in or temporarily abandoned (SI/TA) status.

Wells SI/TA beyond twelve (12) consecutive months requires filing a Sundry Notice (R649-3-36-1). Wells with five (5) years non-activity or non-productivity shall be plugged, unless the Division grants approval for extended shut-in time upon a showing of good cause by the operator (649-3-36-1.3.3). For extended SI/TA consideration the operator shall provide the Utah Division of Oil, Gas & Mining with the following:

1. Reasons for SI/TA of the well (R649-3-36-1.1).
2. The length of time the well is expected to be SI/TA (R649-3-36-1.2), and
3. An explanation and supporting data if necessary, for showing the well has integrity, meaning that the casing, cement, equipment condition, static fluid level, pressure, existence or absence of Underground Sources of Drinking Water and other factors do not make the well a risk to public health and safety or the environment (R649-3-36-1.3).

Please note that the Divisions preferred method for showing well integrity is by MIT.



Page 2
Kerr-McGee Oil and Gas Onshore
February 2, 2016

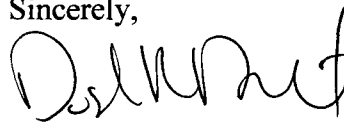
Submitting the information suggested below may help show well integrity and may help qualify your well for extended SI/TA. **Note: As of July 1, 2003, wells in violation of the SI/TA rule R649-3-36 may be subject to full cost bonding (R649-3-1-4.2, 4.3).**

1. Wellbore diagram, and
2. Copy of recent casing pressure test, and
3. Current pressures on the wellbore (tubing pressure, casing pressure, and casing/casing annuli pressure) showing wellbore has integrity, and
4. Fluid level in the wellbore, and
5. An explanation of how the submitted information proves integrity.

All Submittals should be sent via ePermit

If the required information is not received within 30 days of the date of this notice, further actions may be initiated. If you have any questions concerning this matter, please contact me at (801) 538-5281.

Sincerely,



Dustin K. Doucet
Petroleum Engineer

DKD/DD/js

cc: LaVonne Garrison, SITLA
Compliance File
Well File

N:\O&G Reviewed Docs\ChronFile\PetroleumEngineer\SITA

ATTACHMENT A

	Well Name	API	LEASE	Years Inactive
1	NBU 921-35H1CS	43-047-51366	ML 22582	1 year 7 months
2	NBU 921-35H4BS	43-047-51367	ML 22582	1 year 7 months
3	Maverick 921-26B-HZ	43-047-52050	UT ST ML22934	1 year 7 months

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<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL																														
<input type="checkbox"/> WATER SHUTOFF	<input checked="" type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION																														
<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>																														
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, LP requests to keep the NBU 921-35H1CS well temporarily abandoned. The well was temporarily abandoned on 6/22/2015 to be recompleted. We are deferring recompletion activity for this well and therefore request a TA extension of one-year from the date of the MIT. Please see the attached MIT conducted on this well on 6/6/2016 showing wellbore integrity. Thank you.																																
Approved by the June 15, 2016 Oil, Gas and Mining Date: _____ By: <u>Derek Duff</u>																																
NAME (PLEASE PRINT) Candice Barber		PHONE NUMBER 435 781-9749																														
SIGNATURE N/A		TITLE HSE Representative																														
DATE 6/8/2016																																

Kerr McGee

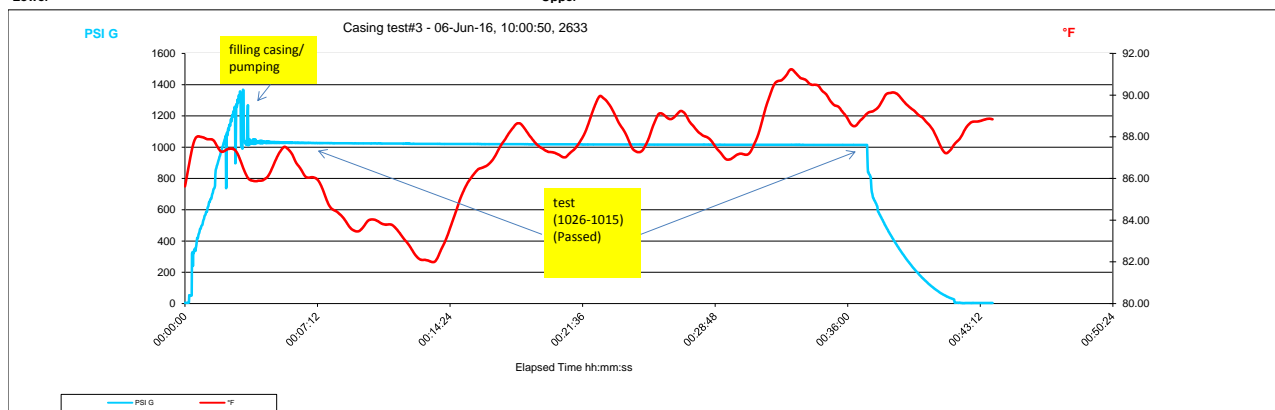
9-21-35h1cs

Cameron by Austin Ortega

	Chassis	Left Scale	Right Scale
Serial Number	259925	258749	478035
Datatype		Lower	Upper
Units		PSI G	°F

Lower

Upper



	Chassis	Lower Module	Upper Module	BARO Module	Left Scale	Right Scale
Serial Number	259925	258749	478035		258749	478035
Model	NV	15KPSI	RTD100			
Message Store						
Userspan		1.00000	1.00000			
Offset						
Datatype						
Units		PSI G	°F		Lower PSI G	Upper °F
Tare						
Average						
User Factor						
User Offset						
User Resolution						
Firmware Version	R080015	R090008	R100006			
Calibration Due		7-Nov-14	8-Dec-15			
Run Index	2					
Run Start Time			6-Jun-16/10:00:50			
Run Duration			43 minutes 52 seconds			
Run Tag			Casing test#3			
Logging Interval	1.0					

Data Points				
Point #	Time	Left - PSI G	Right - °F	
1	00:00:00.0	5	85.62	
2	00:00:01.0	5	85.69	
3	00:00:02.0	5	85.76	
4	00:00:03.0	5	85.84	
5	00:00:04.0	5	85.92	
6	00:00:05.0	5	86.00	
7	00:00:06.0	5	86.08	
8	00:00:07.0	5	86.16	
9	00:00:08.0	5	86.24	
10	00:00:09.0	6	86.32	

11	00:00:10.0	5	86.40
12	00:00:11.0	5	86.48
13	00:00:12.0	5	86.56
14	00:00:13.0	8	86.64
15	00:00:14.0	54	86.72
16	00:00:15.0	48	86.80
17	00:00:16.0	51	86.88
18	00:00:17.0	50	86.96
19	00:00:18.0	51	87.04
20	00:00:19.0	50	87.11
21	00:00:20.0	50	87.18
22	00:00:21.0	52	87.26
23	00:00:22.0	52	87.33
24	00:00:23.0	319	87.40
25	00:00:24.0	328	87.46
26	00:00:25.0	325	87.53
27	00:00:26.0	241	87.59
28	00:00:27.0	325	87.64
29	00:00:28.0	322	87.70
30	00:00:29.0	336	87.74
31	00:00:30.0	342	87.79
32	00:00:31.0	347	87.83
33	00:00:32.0	351	87.86
34	00:00:33.0	350	87.89
35	00:00:34.0	336	87.92
36	00:00:35.0	351	87.95
37	00:00:36.0	360	87.97
38	00:00:37.0	372	87.98
39	00:00:38.0	388	87.99
40	00:00:39.0	409	88.00
41	00:00:40.0	420	88.01
42	00:00:41.0	416	88.02
43	00:00:42.0	418	88.02
44	00:00:43.0	428	88.02
45	00:00:44.0	439	88.02
46	00:00:45.0	447	88.02
47	00:00:46.0	449	88.02

48	00:00:47.0	457	88.01
49	00:00:48.0	466	88.01
50	00:00:49.0	476	88.01
51	00:00:50.0	478	88.00
52	00:00:51.0	478	88.00
53	00:00:52.0	484	87.99
54	00:00:53.0	493	87.99
55	00:00:54.0	498	87.99
56	00:00:55.0	500	87.99
57	00:00:56.0	501	87.98
58	00:00:57.0	505	87.98
59	00:00:58.0	516	87.98
60	00:00:59.0	525	87.97
61	00:01:00.0	533	87.97
62	00:01:01.0	537	87.96
63	00:01:02.0	542	87.95
64	00:01:03.0	552	87.95
65	00:01:04.0	562	87.94
66	00:01:05.0	564	87.93
67	00:01:06.0	566	87.93
68	00:01:07.0	570	87.92
69	00:01:08.0	578	87.91
70	00:01:09.0	586	87.91
71	00:01:10.0	585	87.90
72	00:01:11.0	585	87.89
73	00:01:12.0	590	87.89
74	00:01:13.0	603	87.88
75	00:01:14.0	615	87.88
76	00:01:15.0	619	87.88
77	00:01:16.0	622	87.88
78	00:01:17.0	632	87.88
79	00:01:18.0	643	87.88
80	00:01:19.0	650	87.88
81	00:01:20.0	649	87.88
82	00:01:21.0	653	87.88
83	00:01:22.0	661	87.88
84	00:01:23.0	668	87.88

85	00:01:24.0	670	87.88
86	00:01:25.0	669	87.88
87	00:01:26.0	672	87.88
88	00:01:27.0	682	87.88
89	00:01:28.0	693	87.87
90	00:01:29.0	701	87.87
91	00:01:30.0	704	87.86
92	00:01:31.0	711	87.85
93	00:01:32.0	722	87.84
94	00:01:33.0	731	87.83
95	00:01:34.0	735	87.81
96	00:01:35.0	736	87.80
97	00:01:36.0	739	87.78
98	00:01:37.0	745	87.75
99	00:01:38.0	754	87.73
100	00:01:39.0	826	87.70
101	00:01:40.0	853	87.68
102	00:01:41.0	860	87.65
103	00:01:42.0	865	87.62
104	00:01:43.0	873	87.59
105	00:01:44.0	883	87.57
106	00:01:45.0	886	87.54
107	00:01:46.0	893	87.52
108	00:01:47.0	900	87.49
109	00:01:48.0	908	87.47
110	00:01:49.0	914	87.44
111	00:01:50.0	920	87.42
112	00:01:51.0	925	87.40
113	00:01:52.0	936	87.38
114	00:01:53.0	941	87.36
115	00:01:54.0	945	87.34
116	00:01:55.0	953	87.33
117	00:01:56.0	963	87.31
118	00:01:57.0	968	87.30
119	00:01:58.0	973	87.29
120	00:01:59.0	979	87.29
121	00:02:00.0	984	87.28

122	00:02:01.0	994	87.28
123	00:02:02.0	1001	87.28
124	00:02:03.0	1006	87.28
125	00:02:04.0	1011	87.29
126	00:02:05.0	1021	87.29
127	00:02:06.0	1028	87.30
128	00:02:07.0	1032	87.31
129	00:02:08.0	1039	87.32
130	00:02:09.0	1048	87.32
131	00:02:10.0	1052	87.33
132	00:02:11.0	1058	87.34
133	00:02:12.0	1067	87.35
134	00:02:13.0	1074	87.36
135	00:02:14.0	738	87.37
136	00:02:15.0	750	87.38
137	00:02:16.0	1088	87.39
138	00:02:17.0	1093	87.40
139	00:02:18.0	1080	87.40
140	00:02:19.0	1077	87.41
141	00:02:20.0	1111	87.41
142	00:02:21.0	1121	87.42
143	00:02:22.0	1119	87.42
144	00:02:23.0	1109	87.42
145	00:02:24.0	1139	87.42
146	00:02:25.0	1141	87.42
147	00:02:26.0	1147	87.43
148	00:02:27.0	1136	87.43
149	00:02:28.0	1151	87.43
150	00:02:29.0	1170	87.43
151	00:02:30.0	1180	87.43
152	00:02:31.0	1164	87.43
153	00:02:32.0	1174	87.43
154	00:02:33.0	1196	87.43
155	00:02:34.0	1205	87.42
156	00:02:35.0	1193	87.42
157	00:02:36.0	1199	87.42
158	00:02:37.0	1221	87.41

159	00:02:38.0	1231	87.41
160	00:02:39.0	1226	87.40
161	00:02:40.0	1221	87.40
162	00:02:41.0	1246	87.39
163	00:02:42.0	1259	87.38
164	00:02:43.0	1255	87.36
165	00:02:44.0	897	87.35
166	00:02:45.0	911	87.33
167	00:02:46.0	1106	87.31
168	00:02:47.0	1275	87.29
169	00:02:48.0	1263	87.27
170	00:02:49.0	1257	87.25
171	00:02:50.0	1270	87.22
172	00:02:51.0	1304	87.20
173	00:02:52.0	1291	87.17
174	00:02:53.0	1283	87.13
175	00:02:54.0	1296	87.10
176	00:02:55.0	1332	87.07
177	00:02:56.0	1328	87.03
178	00:02:57.0	1310	87.00
179	00:02:58.0	1326	86.96
180	00:02:59.0	1356	86.92
181	00:03:00.0	1357	86.88
182	00:03:01.0	1337	86.85
183	00:03:02.0	1050	86.81
184	00:03:03.0	1005	86.77
185	00:03:04.0	1014	86.73
186	00:03:05.0	998	86.69
187	00:03:06.0	998	86.65
188	00:03:07.0	990	86.61
189	00:03:08.0	1170	86.57
190	00:03:09.0	1368	86.53
191	00:03:10.0	1366	86.49
192	00:03:11.0	1222	86.45
193	00:03:12.0	1065	86.42
194	00:03:13.0	1036	86.38
195	00:03:14.0	1033	86.35

196	00:03:15.0	1030	86.31
197	00:03:16.0	1026	86.28
198	00:03:17.0	1024	86.25
199	00:03:18.0	1039	86.22
200	00:03:19.0	1016	86.19
201	00:03:20.0	1026	86.16
202	00:03:21.0	1038	86.13
203	00:03:22.0	1029	86.10
204	00:03:23.0	1015	86.07
205	00:03:24.0	1218	86.05
206	00:03:25.0	1269	86.03
207	00:03:26.0	1012	86.01
208	00:03:27.0	1032	85.99
209	00:03:28.0	1027	85.97
210	00:03:29.0	1052	85.96
211	00:03:30.0	1045	85.95
212	00:03:31.0	1018	85.94
213	00:03:32.0	1027	85.93
214	00:03:33.0	1047	85.92
215	00:03:34.0	1033	85.92
216	00:03:35.0	1036	85.91
217	00:03:36.0	1023	85.91
218	00:03:37.0	1036	85.90
219	00:03:38.0	1036	85.90
220	00:03:39.0	1032	85.90
221	00:03:40.0	1023	85.89
222	00:03:41.0	1034	85.89
223	00:03:42.0	1051	85.89
224	00:03:43.0	1031	85.88
225	00:03:44.0	1021	85.88
226	00:03:45.0	1033	85.88
227	00:03:46.0	1051	85.88
228	00:03:47.0	1032	85.87
229	00:03:48.0	1021	85.87
230	00:03:49.0	1029	85.87
231	00:03:50.0	1049	85.87
232	00:03:51.0	1034	85.87

233	00:03:52.0	1024	85.87
234	00:03:53.0	1027	85.87
235	00:03:54.0	1039	85.87
236	00:03:55.0	1038	85.88
237	00:03:56.0	1026	85.88
238	00:03:57.0	1027	85.88
239	00:03:58.0	1035	85.89
240	00:03:59.0	1039	85.89
241	00:04:00.0	1031	85.89
242	00:04:01.0	1026	85.89
243	00:04:02.0	1033	85.89
244	00:04:03.0	1041	85.89
245	00:04:04.0	1033	85.89
246	00:04:05.0	1024	85.89
247	00:04:06.0	1029	85.89
248	00:04:07.0	1042	85.89
249	00:04:08.0	1034	85.89
250	00:04:09.0	1024	85.90
251	00:04:10.0	1027	85.90
252	00:04:11.0	1041	85.90
253	00:04:12.0	1035	85.91
254	00:04:13.0	1024	85.91
255	00:04:14.0	1027	85.92
256	00:04:15.0	1038	85.92
257	00:04:16.0	1035	85.93
258	00:04:17.0	1028	85.94
259	00:04:18.0	1027	85.95
260	00:04:19.0	1036	85.96
261	00:04:20.0	1035	85.97
262	00:04:21.0	1029	85.98
263	00:04:22.0	1026	85.98
264	00:04:23.0	1030	86.00
265	00:04:24.0	1036	86.01
266	00:04:25.0	1031	86.02
267	00:04:26.0	1025	86.03
268	00:04:27.0	1028	86.04
269	00:04:28.0	1038	86.06

270	00:04:29.0	1033	86.07
271	00:04:30.0	1026	86.09
272	00:04:31.0	1027	86.11
273	00:04:32.0	1037	86.14
274	00:04:33.0	1034	86.16
275	00:04:34.0	1026	86.18
276	00:04:35.0	1026	86.21
277	00:04:36.0	1036	86.23
278	00:04:37.0	1034	86.26
279	00:04:38.0	1027	86.29
280	00:04:39.0	1026	86.32
281	00:04:40.0	1032	86.35
282	00:04:41.0	1034	86.38
283	00:04:42.0	1028	86.42
284	00:04:43.0	1026	86.45
285	00:04:44.0	1030	86.48
286	00:04:45.0	1034	86.52
287	00:04:46.0	1031	86.55
288	00:04:47.0	1026	86.58
289	00:04:48.0	1029	86.62
290	00:04:49.0	1034	86.65
291	00:04:50.0	1032	86.69
292	00:04:51.0	1027	86.72
293	00:04:52.0	1026	86.76
294	00:04:53.0	1034	86.79
295	00:04:54.0	1032	86.83
296	00:04:55.0	1027	86.86
297	00:04:56.0	1026	86.89
298	00:04:57.0	1032	86.92
299	00:04:58.0	1033	86.95
300	00:04:59.0	1027	86.98
301	00:05:00.0	1026	87.02
302	00:05:01.0	1031	87.05
303	00:05:02.0	1033	87.07
304	00:05:03.0	1029	87.10
305	00:05:04.0	1026	87.13
306	00:05:05.0	1030	87.16

307	00:05:06.0	1033	87.19
308	00:05:07.0	1029	87.21
309	00:05:08.0	1026	87.24
310	00:05:09.0	1027	87.26
311	00:05:10.0	1032	87.28
312	00:05:11.0	1030	87.30
313	00:05:12.0	1027	87.32
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315	00:05:14.0	1031	87.37
316	00:05:15.0	1031	87.39
317	00:05:16.0	1027	87.41
318	00:05:17.0	1026	87.43
319	00:05:18.0	1031	87.44
320	00:05:19.0	1031	87.46
321	00:05:20.0	1028	87.48
322	00:05:21.0	1026	87.49
323	00:05:22.0	1030	87.51
324	00:05:23.0	1031	87.51
325	00:05:24.0	1028	87.52
326	00:05:25.0	1026	87.52
327	00:05:26.0	1029	87.52
328	00:05:27.0	1031	87.51
329	00:05:28.0	1029	87.51
330	00:05:29.0	1026	87.50
331	00:05:30.0	1028	87.49
332	00:05:31.0	1030	87.48
333	00:05:32.0	1030	87.46
334	00:05:33.0	1027	87.45
335	00:05:34.0	1027	87.44
336	00:05:35.0	1030	87.42
337	00:05:36.0	1030	87.41
338	00:05:37.0	1027	87.40
339	00:05:38.0	1026	87.38
340	00:05:39.0	1030	87.37
341	00:05:40.0	1030	87.35
342	00:05:41.0	1028	87.33
343	00:05:42.0	1026	87.32

344	00:05:43.0	1029	87.30
345	00:05:44.0	1030	87.28
346	00:05:45.0	1028	87.26
347	00:05:46.0	1026	87.24
348	00:05:47.0	1028	87.22
349	00:05:48.0	1030	87.20
350	00:05:49.0	1029	87.17
351	00:05:50.0	1026	87.15
352	00:05:51.0	1028	87.12
353	00:05:52.0	1029	87.09
354	00:05:53.0	1029	87.06
355	00:05:54.0	1027	87.02
356	00:05:55.0	1027	86.99
357	00:05:56.0	1029	86.96
358	00:05:57.0	1029	86.92
359	00:05:58.0	1027	86.89
360	00:05:59.0	1026	86.86
361	00:06:00.0	1028	86.82
362	00:06:01.0	1029	86.80
363	00:06:02.0	1027	86.77
364	00:06:03.0	1026	86.74
365	00:06:04.0	1028	86.72
366	00:06:05.0	1029	86.70
367	00:06:06.0	1028	86.68
368	00:06:07.0	1026	86.66
369	00:06:08.0	1027	86.64
370	00:06:09.0	1029	86.62
371	00:06:10.0	1028	86.61
372	00:06:11.0	1026	86.59
373	00:06:12.0	1027	86.57
374	00:06:13.0	1029	86.55
375	00:06:14.0	1028	86.53
376	00:06:15.0	1026	86.51
377	00:06:16.0	1026	86.49
378	00:06:17.0	1028	86.46
379	00:06:18.0	1028	86.44
380	00:06:19.0	1027	86.42

381	00:06:20.0	1026	86.39
382	00:06:21.0	1028	86.37
383	00:06:22.0	1028	86.34
384	00:06:23.0	1027	86.31
385	00:06:24.0	1026	86.29
386	00:06:25.0	1028	86.26
387	00:06:26.0	1028	86.23
388	00:06:27.0	1028	86.21
389	00:06:28.0	1026	86.18
390	00:06:29.0	1027	86.16
391	00:06:30.0	1028	86.14
392	00:06:31.0	1027	86.12
393	00:06:32.0	1026	86.10
394	00:06:33.0	1026	86.09
395	00:06:34.0	1028	86.07
396	00:06:35.0	1028	86.06
397	00:06:36.0	1026	86.06
398	00:06:37.0	1026	86.05
399	00:06:38.0	1027	86.05
400	00:06:39.0	1027	86.04
401	00:06:40.0	1027	86.04
402	00:06:41.0	1026	86.04
403	00:06:42.0	1028	86.04
404	00:06:43.0	1028	86.04
405	00:06:44.0	1027	86.04
406	00:06:45.0	1026	86.04
407	00:06:46.0	1027	86.04
408	00:06:47.0	1027	86.05
409	00:06:48.0	1027	86.05
410	00:06:49.0	1026	86.05
411	00:06:50.0	1027	86.05
412	00:06:51.0	1027	86.06
413	00:06:52.0	1027	86.06
414	00:06:53.0	1026	86.06
415	00:06:54.0	1026	86.06
416	00:06:55.0	1027	86.06
417	00:06:56.0	1027	86.06

418	00:06:57.0	1026	86.06
419	00:06:58.0	1026	86.05
420	00:06:59.0	1027	86.05
421	00:07:00.0	1027	86.05
422	00:07:01.0	1026	86.04
423	00:07:02.0	1026	86.04
424	00:07:03.0	1026	86.03
425	00:07:04.0	1027	86.03
426	00:07:05.0	1026	86.02
427	00:07:06.0	1026	86.01
428	00:07:07.0	1026	86.01
429	00:07:08.0	1027	86.00
430	00:07:09.0	1027	85.98
431	00:07:10.0	1026	85.97
432	00:07:11.0	1026	85.96
433	00:07:12.0	1027	85.95
434	00:07:13.0	1026	85.93
435	00:07:14.0	1026	85.91
436	00:07:15.0	1026	85.89
437	00:07:16.0	1026	85.87
438	00:07:17.0	1027	85.85
439	00:07:18.0	1026	85.82
440	00:07:19.0	1026	85.80
441	00:07:20.0	1027	85.77
442	00:07:21.0	1026	85.74
443	00:07:22.0	1026	85.71
444	00:07:23.0	1026	85.68
445	00:07:24.0	1027	85.65
446	00:07:25.0	1026	85.62
447	00:07:26.0	1026	85.58
448	00:07:27.0	1026	85.55
449	00:07:28.0	1026	85.51
450	00:07:29.0	1027	85.48
451	00:07:30.0	1026	85.44
452	00:07:31.0	1026	85.40
453	00:07:32.0	1026	85.36
454	00:07:33.0	1026	85.32

455	00:07:34.0	1026	85.28
456	00:07:35.0	1026	85.24
457	00:07:36.0	1026	85.20
458	00:07:37.0	1026	85.16
459	00:07:38.0	1026	85.12
460	00:07:39.0	1026	85.08
461	00:07:40.0	1026	85.04
462	00:07:41.0	1026	85.00
463	00:07:42.0	1026	84.96
464	00:07:43.0	1026	84.93
465	00:07:44.0	1025	84.89
466	00:07:45.0	1026	84.86
467	00:07:46.0	1026	84.82
468	00:07:47.0	1026	84.79
469	00:07:48.0	1025	84.76
470	00:07:49.0	1026	84.73
471	00:07:50.0	1026	84.71
472	00:07:51.0	1026	84.68
473	00:07:52.0	1025	84.66
474	00:07:53.0	1025	84.64
475	00:07:54.0	1026	84.62
476	00:07:55.0	1026	84.60
477	00:07:56.0	1025	84.58
478	00:07:57.0	1026	84.56
479	00:07:58.0	1026	84.55
480	00:07:59.0	1026	84.54
481	00:08:00.0	1025	84.53
482	00:08:01.0	1025	84.52
483	00:08:02.0	1025	84.51
484	00:08:03.0	1026	84.50
485	00:08:04.0	1025	84.49
486	00:08:05.0	1025	84.49
487	00:08:06.0	1025	84.48
488	00:08:07.0	1026	84.47
489	00:08:08.0	1025	84.46
490	00:08:09.0	1025	84.46
491	00:08:10.0	1025	84.45

492	00:08:11.0	1025	84.44
493	00:08:12.0	1025	84.43
494	00:08:13.0	1025	84.43
495	00:08:14.0	1025	84.42
496	00:08:15.0	1025	84.41
497	00:08:16.0	1025	84.40
498	00:08:17.0	1025	84.39
499	00:08:18.0	1025	84.37
500	00:08:19.0	1025	84.36
501	00:08:20.0	1025	84.35
502	00:08:21.0	1025	84.33
503	00:08:22.0	1025	84.32
504	00:08:23.0	1025	84.31
505	00:08:24.0	1025	84.29
506	00:08:25.0	1025	84.28
507	00:08:26.0	1025	84.27
508	00:08:27.0	1025	84.25
509	00:08:28.0	1025	84.24
510	00:08:29.0	1025	84.23
511	00:08:30.0	1025	84.21
512	00:08:31.0	1025	84.20
513	00:08:32.0	1025	84.18
514	00:08:33.0	1025	84.16
515	00:08:34.0	1025	84.15
516	00:08:35.0	1025	84.13
517	00:08:36.0	1025	84.11
518	00:08:37.0	1025	84.09
519	00:08:38.0	1025	84.08
520	00:08:39.0	1025	84.06
521	00:08:40.0	1025	84.03
522	00:08:41.0	1025	84.01
523	00:08:42.0	1025	83.99
524	00:08:43.0	1025	83.97
525	00:08:44.0	1025	83.95
526	00:08:45.0	1025	83.93
527	00:08:46.0	1025	83.90
528	00:08:47.0	1025	83.88

529	00:08:48.0	1025	83.86
530	00:08:49.0	1025	83.83
531	00:08:50.0	1025	83.81
532	00:08:51.0	1025	83.79
533	00:08:52.0	1025	83.77
534	00:08:53.0	1025	83.74
535	00:08:54.0	1025	83.72
536	00:08:55.0	1024	83.70
537	00:08:56.0	1025	83.68
538	00:08:57.0	1025	83.66
539	00:08:58.0	1025	83.65
540	00:08:59.0	1025	83.63
541	00:09:00.0	1024	83.61
542	00:09:01.0	1025	83.60
543	00:09:02.0	1025	83.58
544	00:09:03.0	1024	83.57
545	00:09:04.0	1025	83.56
546	00:09:05.0	1025	83.55
547	00:09:06.0	1024	83.54
548	00:09:07.0	1024	83.53
549	00:09:08.0	1024	83.52
550	00:09:09.0	1024	83.52
551	00:09:10.0	1024	83.51
552	00:09:11.0	1025	83.50
553	00:09:12.0	1024	83.49
554	00:09:13.0	1024	83.49
555	00:09:14.0	1025	83.48
556	00:09:15.0	1025	83.48
557	00:09:16.0	1024	83.47
558	00:09:17.0	1025	83.47
559	00:09:18.0	1024	83.46
560	00:09:19.0	1024	83.46
561	00:09:20.0	1024	83.46
562	00:09:21.0	1024	83.46
563	00:09:22.0	1024	83.46
564	00:09:23.0	1024	83.46
565	00:09:24.0	1024	83.46

566	00:09:25.0	1025	83.47
567	00:09:26.0	1024	83.47
568	00:09:27.0	1024	83.48
569	00:09:28.0	1024	83.48
570	00:09:29.0	1024	83.49
571	00:09:30.0	1024	83.50
572	00:09:31.0	1024	83.51
573	00:09:32.0	1024	83.53
574	00:09:33.0	1024	83.54
575	00:09:34.0	1024	83.55
576	00:09:35.0	1024	83.57
577	00:09:36.0	1024	83.58
578	00:09:37.0	1024	83.60
579	00:09:38.0	1024	83.62
580	00:09:39.0	1024	83.63
581	00:09:40.0	1024	83.65
582	00:09:41.0	1025	83.67
583	00:09:42.0	1024	83.69
584	00:09:43.0	1024	83.71
585	00:09:44.0	1024	83.73
586	00:09:45.0	1024	83.75
587	00:09:46.0	1024	83.77
588	00:09:47.0	1024	83.79
589	00:09:48.0	1024	83.82
590	00:09:49.0	1024	83.84
591	00:09:50.0	1024	83.86
592	00:09:51.0	1024	83.88
593	00:09:52.0	1024	83.90
594	00:09:53.0	1024	83.92
595	00:09:54.0	1024	83.94
596	00:09:55.0	1024	83.95
597	00:09:56.0	1024	83.97
598	00:09:57.0	1024	83.98
599	00:09:58.0	1024	83.99
600	00:09:59.0	1024	84.00
601	00:10:00.0	1024	84.01
602	00:10:01.0	1024	84.01

603	00:10:02.0	1024	84.02
604	00:10:03.0	1024	84.02
605	00:10:04.0	1024	84.03
606	00:10:05.0	1023	84.03
607	00:10:06.0	1023	84.03
608	00:10:07.0	1024	84.04
609	00:10:08.0	1023	84.04
610	00:10:09.0	1024	84.04
611	00:10:10.0	1024	84.04
612	00:10:11.0	1024	84.04
613	00:10:12.0	1024	84.04
614	00:10:13.0	1024	84.04
615	00:10:14.0	1024	84.03
616	00:10:15.0	1024	84.03
617	00:10:16.0	1023	84.03
618	00:10:17.0	1024	84.02
619	00:10:18.0	1024	84.02
620	00:10:19.0	1024	84.02
621	00:10:20.0	1024	84.01
622	00:10:21.0	1023	84.01
623	00:10:22.0	1024	84.00
624	00:10:23.0	1024	83.99
625	00:10:24.0	1024	83.99
626	00:10:25.0	1023	83.98
627	00:10:26.0	1023	83.97
628	00:10:27.0	1023	83.96
629	00:10:28.0	1024	83.95
630	00:10:29.0	1024	83.95
631	00:10:30.0	1023	83.94
632	00:10:31.0	1024	83.93
633	00:10:32.0	1024	83.92
634	00:10:33.0	1024	83.91
635	00:10:34.0	1024	83.90
636	00:10:35.0	1023	83.89
637	00:10:36.0	1024	83.88
638	00:10:37.0	1023	83.87
639	00:10:38.0	1024	83.86

640	00:10:39.0	1024	83.85
641	00:10:40.0	1023	83.84
642	00:10:41.0	1023	83.84
643	00:10:42.0	1024	83.83
644	00:10:43.0	1023	83.82
645	00:10:44.0	1023	83.82
646	00:10:45.0	1023	83.81
647	00:10:46.0	1023	83.81
648	00:10:47.0	1023	83.81
649	00:10:48.0	1023	83.80
650	00:10:49.0	1023	83.80
651	00:10:50.0	1023	83.79
652	00:10:51.0	1023	83.79
653	00:10:52.0	1023	83.79
654	00:10:53.0	1023	83.79
655	00:10:54.0	1023	83.78
656	00:10:55.0	1023	83.78
657	00:10:56.0	1023	83.78
658	00:10:57.0	1023	83.79
659	00:10:58.0	1023	83.79
660	00:10:59.0	1023	83.79
661	00:11:00.0	1023	83.79
662	00:11:01.0	1023	83.79
663	00:11:02.0	1023	83.79
664	00:11:03.0	1023	83.80
665	00:11:04.0	1023	83.80
666	00:11:05.0	1023	83.80
667	00:11:06.0	1023	83.80
668	00:11:07.0	1023	83.80
669	00:11:08.0	1023	83.80
670	00:11:09.0	1023	83.80
671	00:11:10.0	1023	83.79
672	00:11:11.0	1023	83.79
673	00:11:12.0	1023	83.79
674	00:11:13.0	1023	83.78
675	00:11:14.0	1023	83.78
676	00:11:15.0	1023	83.77

677	00:11:16.0	1023	83.76
678	00:11:17.0	1023	83.75
679	00:11:18.0	1023	83.74
680	00:11:19.0	1023	83.73
681	00:11:20.0	1023	83.71
682	00:11:21.0	1023	83.70
683	00:11:22.0	1023	83.69
684	00:11:23.0	1023	83.67
685	00:11:24.0	1023	83.66
686	00:11:25.0	1023	83.64
687	00:11:26.0	1023	83.63
688	00:11:27.0	1023	83.61
689	00:11:28.0	1023	83.59
690	00:11:29.0	1023	83.58
691	00:11:30.0	1023	83.56
692	00:11:31.0	1023	83.55
693	00:11:32.0	1023	83.53
694	00:11:33.0	1023	83.51
695	00:11:34.0	1023	83.49
696	00:11:35.0	1023	83.48
697	00:11:36.0	1023	83.46
698	00:11:37.0	1023	83.44
699	00:11:38.0	1023	83.42
700	00:11:39.0	1023	83.40
701	00:11:40.0	1023	83.39
702	00:11:41.0	1023	83.37
703	00:11:42.0	1023	83.34
704	00:11:43.0	1023	83.32
705	00:11:44.0	1023	83.30
706	00:11:45.0	1023	83.28
707	00:11:46.0	1023	83.26
708	00:11:47.0	1023	83.24
709	00:11:48.0	1023	83.22
710	00:11:49.0	1023	83.20
711	00:11:50.0	1023	83.18
712	00:11:51.0	1023	83.16
713	00:11:52.0	1022	83.14

714	00:11:53.0	1022	83.12
715	00:11:54.0	1023	83.10
716	00:11:55.0	1023	83.08
717	00:11:56.0	1023	83.06
718	00:11:57.0	1023	83.05
719	00:11:58.0	1023	83.03
720	00:11:59.0	1023	83.01
721	00:12:00.0	1023	83.00
722	00:12:01.0	1022	82.98
723	00:12:02.0	1023	82.97
724	00:12:03.0	1023	82.95
725	00:12:04.0	1023	82.93
726	00:12:05.0	1023	82.91
727	00:12:06.0	1023	82.89
728	00:12:07.0	1022	82.87
729	00:12:08.0	1023	82.85
730	00:12:09.0	1022	82.83
731	00:12:10.0	1023	82.81
732	00:12:11.0	1023	82.79
733	00:12:12.0	1022	82.77
734	00:12:13.0	1022	82.75
735	00:12:14.0	1023	82.72
736	00:12:15.0	1022	82.70
737	00:12:16.0	1022	82.68
738	00:12:17.0	1022	82.65
739	00:12:18.0	1022	82.63
740	00:12:19.0	1022	82.60
741	00:12:20.0	1022	82.58
742	00:12:21.0	1022	82.56
743	00:12:22.0	1022	82.53
744	00:12:23.0	1022	82.51
745	00:12:24.0	1022	82.48
746	00:12:25.0	1023	82.46
747	00:12:26.0	1022	82.44
748	00:12:27.0	1022	82.41
749	00:12:28.0	1022	82.39
750	00:12:29.0	1022	82.37

751	00:12:30.0	1022	82.35
752	00:12:31.0	1022	82.33
753	00:12:32.0	1022	82.31
754	00:12:33.0	1022	82.29
755	00:12:34.0	1022	82.28
756	00:12:35.0	1022	82.26
757	00:12:36.0	1022	82.24
758	00:12:37.0	1022	82.23
759	00:12:38.0	1022	82.21
760	00:12:39.0	1022	82.20
761	00:12:40.0	1022	82.18
762	00:12:41.0	1022	82.17
763	00:12:42.0	1022	82.16
764	00:12:43.0	1022	82.15
765	00:12:44.0	1022	82.14
766	00:12:45.0	1022	82.13
767	00:12:46.0	1022	82.12
768	00:12:47.0	1022	82.11
769	00:12:48.0	1022	82.11
770	00:12:49.0	1022	82.10
771	00:12:50.0	1022	82.10
772	00:12:51.0	1022	82.10
773	00:12:52.0	1022	82.09
774	00:12:53.0	1022	82.09
775	00:12:54.0	1022	82.09
776	00:12:55.0	1022	82.09
777	00:12:56.0	1022	82.09
778	00:12:57.0	1022	82.09
779	00:12:58.0	1022	82.09
780	00:12:59.0	1022	82.10
781	00:13:00.0	1022	82.10
782	00:13:01.0	1022	82.10
783	00:13:02.0	1022	82.10
784	00:13:03.0	1022	82.10
785	00:13:04.0	1022	82.09
786	00:13:05.0	1022	82.09
787	00:13:06.0	1022	82.09

788	00:13:07.0	1022	82.08
789	00:13:08.0	1022	82.08
790	00:13:09.0	1022	82.08
791	00:13:10.0	1022	82.07
792	00:13:11.0	1022	82.07
793	00:13:12.0	1022	82.07
794	00:13:13.0	1022	82.06
795	00:13:14.0	1022	82.06
796	00:13:15.0	1022	82.05
797	00:13:16.0	1022	82.04
798	00:13:17.0	1022	82.04
799	00:13:18.0	1022	82.03
800	00:13:19.0	1022	82.03
801	00:13:20.0	1022	82.02
802	00:13:21.0	1022	82.01
803	00:13:22.0	1022	82.01
804	00:13:23.0	1022	82.00
805	00:13:24.0	1022	82.00
806	00:13:25.0	1022	81.99
807	00:13:26.0	1022	81.99
808	00:13:27.0	1022	81.99
809	00:13:28.0	1022	81.99
810	00:13:29.0	1022	81.99
811	00:13:30.0	1022	81.99
812	00:13:31.0	1022	81.99
813	00:13:32.0	1022	81.99
814	00:13:33.0	1022	82.00
815	00:13:34.0	1022	82.01
816	00:13:35.0	1022	82.02
817	00:13:36.0	1022	82.03
818	00:13:37.0	1022	82.05
819	00:13:38.0	1022	82.07
820	00:13:39.0	1022	82.09
821	00:13:40.0	1022	82.11
822	00:13:41.0	1022	82.14
823	00:13:42.0	1022	82.16
824	00:13:43.0	1022	82.19

825	00:13:44.0	1021	82.22
826	00:13:45.0	1022	82.25
827	00:13:46.0	1022	82.28
828	00:13:47.0	1022	82.32
829	00:13:48.0	1022	82.35
830	00:13:49.0	1022	82.39
831	00:13:50.0	1021	82.42
832	00:13:51.0	1022	82.46
833	00:13:52.0	1022	82.49
834	00:13:53.0	1022	82.52
835	00:13:54.0	1021	82.56
836	00:13:55.0	1021	82.59
837	00:13:56.0	1021	82.62
838	00:13:57.0	1021	82.65
839	00:13:58.0	1021	82.68
840	00:13:59.0	1021	82.71
841	00:14:00.0	1021	82.74
842	00:14:01.0	1021	82.77
843	00:14:02.0	1021	82.80
844	00:14:03.0	1021	82.83
845	00:14:04.0	1021	82.86
846	00:14:05.0	1021	82.89
847	00:14:06.0	1022	82.92
848	00:14:07.0	1021	82.96
849	00:14:08.0	1021	82.99
850	00:14:09.0	1021	83.02
851	00:14:10.0	1021	83.06
852	00:14:11.0	1021	83.10
853	00:14:12.0	1021	83.13
854	00:14:13.0	1021	83.17
855	00:14:14.0	1021	83.21
856	00:14:15.0	1021	83.25
857	00:14:16.0	1021	83.28
858	00:14:17.0	1021	83.32
859	00:14:18.0	1021	83.36
860	00:14:19.0	1021	83.40
861	00:14:20.0	1021	83.45

862	00:14:21.0	1021	83.49
863	00:14:22.0	1021	83.53
864	00:14:23.0	1021	83.58
865	00:14:24.0	1021	83.62
866	00:14:25.0	1021	83.66
867	00:14:26.0	1021	83.70
868	00:14:27.0	1021	83.74
869	00:14:28.0	1021	83.78
870	00:14:29.0	1021	83.82
871	00:14:30.0	1021	83.87
872	00:14:31.0	1021	83.91
873	00:14:32.0	1021	83.95
874	00:14:33.0	1021	83.99
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882	00:14:41.0	1021	84.33
883	00:14:42.0	1021	84.37
884	00:14:43.0	1021	84.41
885	00:14:44.0	1021	84.45
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887	00:14:46.0	1021	84.54
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889	00:14:48.0	1021	84.63
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891	00:14:50.0	1021	84.72
892	00:14:51.0	1021	84.76
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894	00:14:53.0	1021	84.85
895	00:14:54.0	1021	84.89
896	00:14:55.0	1021	84.94
897	00:14:56.0	1021	84.98
898	00:14:57.0	1021	85.02

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918	00:15:17.0	1021	85.67
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923	00:15:22.0	1021	85.81
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926	00:15:25.0	1021	85.88
927	00:15:26.0	1021	85.90
928	00:15:27.0	1021	85.92
929	00:15:28.0	1021	85.94
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968	00:16:07.0	1021	86.51
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1125	00:18:44.0	1019	88.03
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1298	00:21:37.0	1018	88.00
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2190	00:36:29.0	1015	88.56
2191	00:36:30.0	1015	88.58
2192	00:36:31.0	1015	88.60
2193	00:36:32.0	1015	88.62

2194	00:36:33.0	1015	88.64
2195	00:36:34.0	1015	88.66
2196	00:36:35.0	1015	88.67
2197	00:36:36.0	1015	88.69
2198	00:36:37.0	1015	88.71
2199	00:36:38.0	1015	88.73
2200	00:36:39.0	1015	88.75
2201	00:36:40.0	1015	88.77
2202	00:36:41.0	1015	88.78
2203	00:36:42.0	1015	88.80
2204	00:36:43.0	1015	88.81
2205	00:36:44.0	1015	88.82
2206	00:36:45.0	1015	88.84
2207	00:36:46.0	1015	88.85
2208	00:36:47.0	1015	88.86
2209	00:36:48.0	1015	88.88
2210	00:36:49.0	1015	88.89
2211	00:36:50.0	1015	88.91
2212	00:36:51.0	1015	88.92
2213	00:36:52.0	1015	88.94
2214	00:36:53.0	1015	88.96
2215	00:36:54.0	1015	88.98
2216	00:36:55.0	1015	88.99
2217	00:36:56.0	1015	89.01
2218	00:36:57.0	1015	89.03
2219	00:36:58.0	1015	89.05
2220	00:36:59.0	1015	89.06
2221	00:37:00.0	1015	89.08
2222	00:37:01.0	1015	89.09
2223	00:37:02.0	1015	89.10
2224	00:37:03.0	1015	89.11
2225	00:37:04.0	941	89.13
2226	00:37:05.0	873	89.14
2227	00:37:06.0	840	89.15
2228	00:37:07.0	840	89.16
2229	00:37:08.0	838	89.17
2230	00:37:09.0	829	89.18

2231	00:37:10.0	826	89.18
2232	00:37:11.0	825	89.19
2233	00:37:12.0	823	89.19
2234	00:37:13.0	816	89.19
2235	00:37:14.0	810	89.20
2236	00:37:15.0	809	89.20
2237	00:37:16.0	774	89.20
2238	00:37:17.0	739	89.20
2239	00:37:18.0	720	89.21
2240	00:37:19.0	708	89.21
2241	00:37:20.0	702	89.21
2242	00:37:21.0	691	89.22
2243	00:37:22.0	680	89.22
2244	00:37:23.0	676	89.23
2245	00:37:24.0	675	89.24
2246	00:37:25.0	668	89.25
2247	00:37:26.0	662	89.26
2248	00:37:27.0	659	89.27
2249	00:37:28.0	658	89.28
2250	00:37:29.0	653	89.29
2251	00:37:30.0	648	89.30
2252	00:37:31.0	643	89.31
2253	00:37:32.0	641	89.32
2254	00:37:33.0	637	89.33
2255	00:37:34.0	631	89.34
2256	00:37:35.0	627	89.35
2257	00:37:36.0	624	89.37
2258	00:37:37.0	613	89.38
2259	00:37:38.0	593	89.40
2260	00:37:39.0	587	89.41
2261	00:37:40.0	585	89.43
2262	00:37:41.0	583	89.45
2263	00:37:42.0	577	89.47
2264	00:37:43.0	573	89.49
2265	00:37:44.0	569	89.51
2266	00:37:45.0	568	89.54
2267	00:37:46.0	562	89.56

2268	00:37:47.0	558	89.59
2269	00:37:48.0	554	89.61
2270	00:37:49.0	552	89.64
2271	00:37:50.0	547	89.67
2272	00:37:51.0	542	89.69
2273	00:37:52.0	538	89.72
2274	00:37:53.0	536	89.74
2275	00:37:54.0	533	89.77
2276	00:37:55.0	527	89.80
2277	00:37:56.0	523	89.82
2278	00:37:57.0	520	89.85
2279	00:37:58.0	518	89.88
2280	00:37:59.0	513	89.91
2281	00:38:00.0	507	89.94
2282	00:38:01.0	503	89.96
2283	00:38:02.0	502	89.98
2284	00:38:03.0	497	90.01
2285	00:38:04.0	493	90.02
2286	00:38:05.0	490	90.04
2287	00:38:06.0	486	90.05
2288	00:38:07.0	482	90.06
2289	00:38:08.0	478	90.07
2290	00:38:09.0	475	90.08
2291	00:38:10.0	473	90.08
2292	00:38:11.0	469	90.09
2293	00:38:12.0	464	90.09
2294	00:38:13.0	460	90.09
2295	00:38:14.0	458	90.10
2296	00:38:15.0	455	90.10
2297	00:38:16.0	451	90.10
2298	00:38:17.0	447	90.10
2299	00:38:18.0	444	90.10
2300	00:38:19.0	441	90.10
2301	00:38:20.0	438	90.11
2302	00:38:21.0	434	90.11
2303	00:38:22.0	431	90.11
2304	00:38:23.0	428	90.12

2305	00:38:24.0	425	90.12
2306	00:38:25.0	420	90.13
2307	00:38:26.0	417	90.13
2308	00:38:27.0	415	90.13
2309	00:38:28.0	412	90.13
2310	00:38:29.0	407	90.13
2311	00:38:30.0	404	90.12
2312	00:38:31.0	402	90.12
2313	00:38:32.0	399	90.12
2314	00:38:33.0	396	90.11
2315	00:38:34.0	392	90.11
2316	00:38:35.0	389	90.10
2317	00:38:36.0	386	90.09
2318	00:38:37.0	383	90.09
2319	00:38:38.0	380	90.08
2320	00:38:39.0	377	90.07
2321	00:38:40.0	374	90.07
2322	00:38:41.0	370	90.06
2323	00:38:42.0	367	90.04
2324	00:38:43.0	364	90.03
2325	00:38:44.0	362	90.02
2326	00:38:45.0	359	90.00
2327	00:38:46.0	355	89.99
2328	00:38:47.0	352	89.97
2329	00:38:48.0	349	89.95
2330	00:38:49.0	347	89.94
2331	00:38:50.0	344	89.92
2332	00:38:51.0	341	89.90
2333	00:38:52.0	338	89.88
2334	00:38:53.0	335	89.86
2335	00:38:54.0	332	89.85
2336	00:38:55.0	329	89.83
2337	00:38:56.0	326	89.81
2338	00:38:57.0	324	89.79
2339	00:38:58.0	320	89.77
2340	00:38:59.0	317	89.76
2341	00:39:00.0	315	89.74

2342	00:39:01.0	312	89.72
2343	00:39:02.0	310	89.70
2344	00:39:03.0	307	89.69
2345	00:39:04.0	303	89.67
2346	00:39:05.0	301	89.65
2347	00:39:06.0	299	89.64
2348	00:39:07.0	296	89.62
2349	00:39:08.0	293	89.60
2350	00:39:09.0	290	89.59
2351	00:39:10.0	288	89.57
2352	00:39:11.0	284	89.56
2353	00:39:12.0	282	89.54
2354	00:39:13.0	280	89.53
2355	00:39:14.0	277	89.52
2356	00:39:15.0	274	89.51
2357	00:39:16.0	271	89.49
2358	00:39:17.0	269	89.48
2359	00:39:18.0	267	89.47
2360	00:39:19.0	265	89.45
2361	00:39:20.0	261	89.44
2362	00:39:21.0	259	89.43
2363	00:39:22.0	257	89.41
2364	00:39:23.0	254	89.40
2365	00:39:24.0	251	89.39
2366	00:39:25.0	249	89.38
2367	00:39:26.0	247	89.37
2368	00:39:27.0	244	89.35
2369	00:39:28.0	242	89.34
2370	00:39:29.0	239	89.33
2371	00:39:30.0	237	89.32
2372	00:39:31.0	234	89.31
2373	00:39:32.0	232	89.30
2374	00:39:33.0	229	89.29
2375	00:39:34.0	227	89.28
2376	00:39:35.0	225	89.27
2377	00:39:36.0	223	89.26
2378	00:39:37.0	220	89.24

2379	00:39:38.0	218	89.23
2380	00:39:39.0	216	89.22
2381	00:39:40.0	213	89.20
2382	00:39:41.0	211	89.18
2383	00:39:42.0	209	89.17
2384	00:39:43.0	207	89.15
2385	00:39:44.0	204	89.14
2386	00:39:45.0	202	89.12
2387	00:39:46.0	200	89.11
2388	00:39:47.0	198	89.09
2389	00:39:48.0	196	89.08
2390	00:39:49.0	194	89.06
2391	00:39:50.0	191	89.05
2392	00:39:51.0	189	89.04
2393	00:39:52.0	187	89.03
2394	00:39:53.0	185	89.02
2395	00:39:54.0	183	89.01
2396	00:39:55.0	181	89.00
2397	00:39:56.0	179	88.99
2398	00:39:57.0	177	88.98
2399	00:39:58.0	175	88.97
2400	00:39:59.0	173	88.97
2401	00:40:00.0	171	88.96
2402	00:40:01.0	168	88.95
2403	00:40:02.0	166	88.94
2404	00:40:03.0	164	88.93
2405	00:40:04.0	163	88.91
2406	00:40:05.0	161	88.90
2407	00:40:06.0	159	88.88
2408	00:40:07.0	156	88.87
2409	00:40:08.0	155	88.85
2410	00:40:09.0	153	88.83
2411	00:40:10.0	151	88.81
2412	00:40:11.0	149	88.79
2413	00:40:12.0	147	88.78
2414	00:40:13.0	145	88.76
2415	00:40:14.0	144	88.74

2416	00:40:15.0	142	88.72
2417	00:40:16.0	140	88.71
2418	00:40:17.0	138	88.69
2419	00:40:18.0	136	88.68
2420	00:40:19.0	134	88.66
2421	00:40:20.0	133	88.65
2422	00:40:21.0	131	88.63
2423	00:40:22.0	129	88.62
2424	00:40:23.0	127	88.61
2425	00:40:24.0	125	88.59
2426	00:40:25.0	124	88.57
2427	00:40:26.0	122	88.56
2428	00:40:27.0	121	88.54
2429	00:40:28.0	119	88.52
2430	00:40:29.0	117	88.50
2431	00:40:30.0	115	88.48
2432	00:40:31.0	114	88.46
2433	00:40:32.0	112	88.44
2434	00:40:33.0	110	88.42
2435	00:40:34.0	109	88.40
2436	00:40:35.0	107	88.38
2437	00:40:36.0	106	88.36
2438	00:40:37.0	104	88.34
2439	00:40:38.0	103	88.31
2440	00:40:39.0	101	88.29
2441	00:40:40.0	100	88.26
2442	00:40:41.0	98	88.24
2443	00:40:42.0	96	88.21
2444	00:40:43.0	95	88.18
2445	00:40:44.0	94	88.15
2446	00:40:45.0	92	88.12
2447	00:40:46.0	91	88.09
2448	00:40:47.0	89	88.06
2449	00:40:48.0	88	88.03
2450	00:40:49.0	86	88.00
2451	00:40:50.0	85	87.97
2452	00:40:51.0	84	87.94

2453	00:40:52.0	82	87.90
2454	00:40:53.0	81	87.87
2455	00:40:54.0	79	87.84
2456	00:40:55.0	78	87.80
2457	00:40:56.0	77	87.77
2458	00:40:57.0	76	87.73
2459	00:40:58.0	74	87.70
2460	00:40:59.0	73	87.67
2461	00:41:00.0	71	87.63
2462	00:41:01.0	70	87.60
2463	00:41:02.0	69	87.57
2464	00:41:03.0	68	87.54
2465	00:41:04.0	66	87.51
2466	00:41:05.0	65	87.48
2467	00:41:06.0	64	87.45
2468	00:41:07.0	63	87.42
2469	00:41:08.0	62	87.40
2470	00:41:09.0	61	87.37
2471	00:41:10.0	59	87.35
2472	00:41:11.0	58	87.33
2473	00:41:12.0	57	87.31
2474	00:41:13.0	56	87.29
2475	00:41:14.0	55	87.27
2476	00:41:15.0	54	87.26
2477	00:41:16.0	53	87.24
2478	00:41:17.0	51	87.23
2479	00:41:18.0	51	87.22
2480	00:41:19.0	50	87.22
2481	00:41:20.0	49	87.21
2482	00:41:21.0	47	87.21
2483	00:41:22.0	47	87.21
2484	00:41:23.0	45	87.22
2485	00:41:24.0	44	87.22
2486	00:41:25.0	44	87.23
2487	00:41:26.0	43	87.24
2488	00:41:27.0	42	87.25
2489	00:41:28.0	41	87.27

2490	00:41:29.0	40	87.28
2491	00:41:30.0	39	87.29
2492	00:41:31.0	38	87.31
2493	00:41:32.0	37	87.32
2494	00:41:33.0	36	87.34
2495	00:41:34.0	36	87.35
2496	00:41:35.0	35	87.37
2497	00:41:36.0	34	87.38
2498	00:41:37.0	33	87.40
2499	00:41:38.0	33	87.42
2500	00:41:39.0	32	87.45
2501	00:41:40.0	31	87.47
2502	00:41:41.0	30	87.49
2503	00:41:42.0	30	87.52
2504	00:41:43.0	29	87.54
2505	00:41:44.0	28	87.56
2506	00:41:45.0	27	87.59
2507	00:41:46.0	27	87.61
2508	00:41:47.0	25	87.63
2509	00:41:48.0	11	87.64
2510	00:41:49.0	5	87.66
2511	00:41:50.0	5	87.68
2512	00:41:51.0	6	87.70
2513	00:41:52.0	6	87.71
2514	00:41:53.0	6	87.73
2515	00:41:54.0	6	87.74
2516	00:41:55.0	6	87.76
2517	00:41:56.0	6	87.77
2518	00:41:57.0	6	87.78
2519	00:41:58.0	6	87.80
2520	00:41:59.0	5	87.81
2521	00:42:00.0	5	87.82
2522	00:42:01.0	5	87.84
2523	00:42:02.0	5	87.85
2524	00:42:03.0	6	87.87
2525	00:42:04.0	6	87.89
2526	00:42:05.0	6	87.90

2527	00:42:06.0	6	87.92
2528	00:42:07.0	5	87.95
2529	00:42:08.0	5	87.97
2530	00:42:09.0	4	87.99
2531	00:42:10.0	4	88.02
2532	00:42:11.0	4	88.04
2533	00:42:12.0	4	88.07
2534	00:42:13.0	3	88.09
2535	00:42:14.0	4	88.12
2536	00:42:15.0	3	88.15
2537	00:42:16.0	3	88.18
2538	00:42:17.0	3	88.21
2539	00:42:18.0	3	88.24
2540	00:42:19.0	4	88.27
2541	00:42:20.0	3	88.30
2542	00:42:21.0	3	88.32
2543	00:42:22.0	3	88.35
2544	00:42:23.0	4	88.37
2545	00:42:24.0	4	88.40
2546	00:42:25.0	4	88.42
2547	00:42:26.0	4	88.44
2548	00:42:27.0	4	88.47
2549	00:42:28.0	4	88.48
2550	00:42:29.0	4	88.50
2551	00:42:30.0	4	88.52
2552	00:42:31.0	4	88.54
2553	00:42:32.0	4	88.56
2554	00:42:33.0	4	88.57
2555	00:42:34.0	4	88.59
2556	00:42:35.0	4	88.60
2557	00:42:36.0	4	88.62
2558	00:42:37.0	4	88.63
2559	00:42:38.0	4	88.64
2560	00:42:39.0	4	88.66
2561	00:42:40.0	4	88.67
2562	00:42:41.0	4	88.68
2563	00:42:42.0	3	88.69

2564	00:42:43.0	3	88.70
2565	00:42:44.0	4	88.70
2566	00:42:45.0	4	88.71
2567	00:42:46.0	3	88.72
2568	00:42:47.0	4	88.72
2569	00:42:48.0	4	88.72
2570	00:42:49.0	4	88.72
2571	00:42:50.0	3	88.73
2572	00:42:51.0	4	88.73
2573	00:42:52.0	4	88.73
2574	00:42:53.0	4	88.73
2575	00:42:54.0	4	88.73
2576	00:42:55.0	4	88.73
2577	00:42:56.0	4	88.73
2578	00:42:57.0	4	88.73
2579	00:42:58.0	4	88.73
2580	00:42:59.0	4	88.73
2581	00:43:00.0	4	88.73
2582	00:43:01.0	4	88.73
2583	00:43:02.0	4	88.73
2584	00:43:03.0	4	88.73
2585	00:43:04.0	4	88.74
2586	00:43:05.0	4	88.74
2587	00:43:06.0	4	88.74
2588	00:43:07.0	4	88.74
2589	00:43:08.0	4	88.75
2590	00:43:09.0	4	88.75
2591	00:43:10.0	4	88.75
2592	00:43:11.0	4	88.76
2593	00:43:12.0	4	88.76
2594	00:43:13.0	4	88.76
2595	00:43:14.0	4	88.77
2596	00:43:15.0	4	88.77
2597	00:43:16.0	4	88.78
2598	00:43:17.0	4	88.78
2599	00:43:18.0	4	88.79
2600	00:43:19.0	4	88.79

2601	00:43:20.0	4	88.80
2602	00:43:21.0	4	88.80
2603	00:43:22.0	4	88.81
2604	00:43:23.0	4	88.81
2605	00:43:24.0	4	88.82
2606	00:43:25.0	4	88.82
2607	00:43:26.0	4	88.82
2608	00:43:27.0	4	88.83
2609	00:43:28.0	4	88.83
2610	00:43:29.0	4	88.84
2611	00:43:30.0	4	88.84
2612	00:43:31.0	4	88.85
2613	00:43:32.0	4	88.85
2614	00:43:33.0	4	88.85
2615	00:43:34.0	4	88.86
2616	00:43:35.0	4	88.86
2617	00:43:36.0	4	88.86
2618	00:43:37.0	4	88.86
2619	00:43:38.0	4	88.86
2620	00:43:39.0	4	88.86
2621	00:43:40.0	4	88.87
2622	00:43:41.0	4	88.87
2623	00:43:42.0	4	88.87
2624	00:43:43.0	4	88.87
2625	00:43:44.0	4	88.86
2626	00:43:45.0	4	88.86
2627	00:43:46.0	4	88.86
2628	00:43:47.0	5	88.86
2629	00:43:48.0	4	88.85
2630	00:43:49.0	4	88.85
2631	00:43:50.0	4	88.85
2632	00:43:51.0	4	88.84
2633	00:43:52.0	4	88.84